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Plants, Carburetted Water Gas.

Plants, Coal Gas.

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B. H. Co.—De Brouwer Type Charging Machines.

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Engineers and Founders

BALTIMORE NEW YORK

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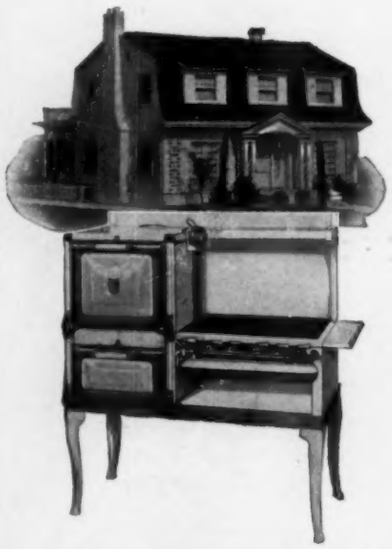

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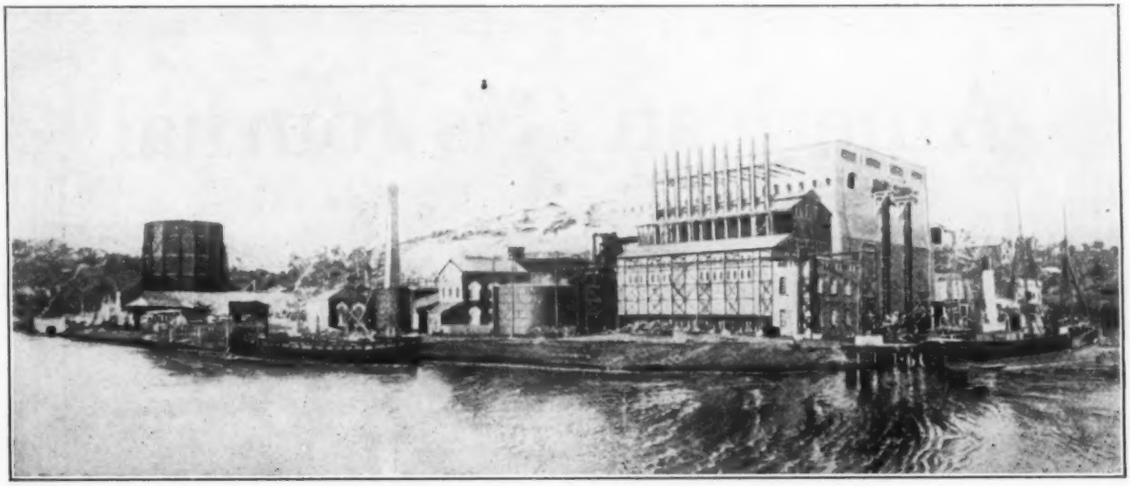

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American Gas Journal

SIXTY-FIFTH YEAR

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"APPLICANT FOR MEMBERSHIP IN THE AUDIT BUREAU OF CIRCULATIONS"

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AMERICAN GAS JOURNAL

Vol. 120. No. 26 NEW YORK, JUNE 28, 1924 Whole No. 3468

The Art of Window Displays

The place of window and store display in gas appliance selling

H. Ezmond Smith

DISSATISFACTION in the use of gas can be lessened through the widespread distribution of the dependable type of gas appliance. Regardless of the price paid for the appliance, the consumer expects it to function properly. In case it does not burn gas effectively, the gas user appeals to the gas company, for he always believes the fault to be in the gas and not in the appliance. All defects in gas appliances in use, therefore, reflect in ill will towards the gas company, regardless of who sold the appliance to the consumer.

Merchandizing Gas Appliances a Necessity

The gas company, then, in order to protect itself against this source of dissatisfaction, should provide a means whereby dependable gas appliances will be used throughout its district. In order to do so, the gas company must control the sale of gas consuming appliances in its community. It must, then, enter the merchandizing field. Its merchandizing, however, must be done well, if the desired results are to be obtained. Only through such a policy will it be able to set a standard of quality and price which will insure the sale of the greatest number of efficient gas using units.

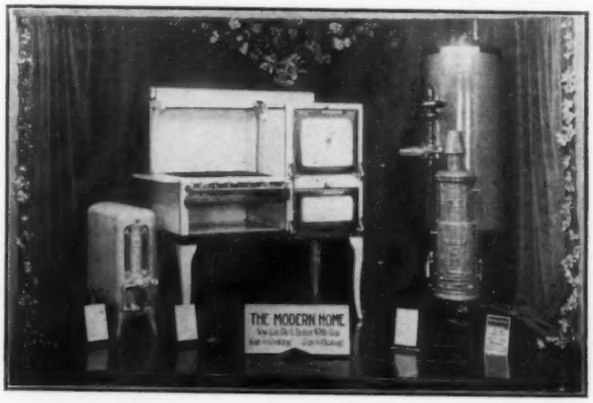
Gas Appliances Must Sell at Profit

Inasmuch as the chief concern of the gas company is the sale of gas, appliances may be sold at a loss, and this loss be absorbed by the return of the gas sold.

However, no one expects a company to invest its time and money in an undertaking which pays no return. Any company in the merchandizing field is entitled to a fair return on its investment, if it renders a service worthy of such a return. If the best results are to be obtained, that is, if the most gas-consuming appliances are to be sold, and a fair return on the investment earned, modern sales methods must be used.

Importance of Window Displays

Modern retailing of any line of goods cannot be carried on successfully without careful planning.



The Spring Water Heater Campaign Given Support in the Window Display

The sales campaign must be worked out carefully, expense planning must be taken care of, and advertising must be provided for. However, if window and salesroom display is not made a part of the program, and co-ordinated with the advertising, and with the other features of the sales campaign, an important link in the chain is broken.

Gas companies have made use of displays in the sale of their merchandise, at least in some degree. However, attractive and telling displays are not so common as may be supposed, for merchandisers of gas appliances have not come to realize the difficulty of securing the best results from their windows, and have used men for this purpose who have been poorly equipped and poorly prepared for this particular kind of display work.

Very Best Displays Imperative

It is imperative, however, that the gas company have the very best displays that can be obtained.

Window and store display is not, as many suppose, merely making an attractive, picturesque effect for the company's merchandise. The display should be planned in the same manner as the newspaper and magazine advertising, and should correlate with them as well. Display is advertising and selling.

Until the management get this view, however, the big things that can be accomplished by store and window display will not be realized.

Aim of Window and Store Display for Gas Companies

Because of the fact that the gas company is in the business of selling gas, the first and foremost aim of

The Store Display Should Be as Well Executed as That of the Windows

There are three reasons why this is the case: first, the gas company location is such that only the best displays will compare favorably with those of other stores in the vicinity; second, it takes the highest type of display to reflect the dignity and importance of the company, and third, only the best of displays have sufficient "pulling power" to attract sufficient prospective buyers to carry out the expansion plans of the majority of gas companies.

every endeavor of the company must be the creation of good will. Only in this way can the best interests of the utility be secured. The aim of window and store display of gas appliances, then, must follow this general rule and provide, first of all, for good will and good feeling on the part of the gas users toward the company serving them.

All gas companies, however, desire to expand their

(Continued on page 579)

Coming Gas Competition

Strenuous competition conditions for the gas company in the future

J. E. Bullard

WHEN a gas company makes an installation of gas appliances in the plant of the largest industrial user of heat in town, especially if this means a complete change over to gas fuel, the fact is usually mentioned with pride. A fuel situation, however, which causes manufacturers to turn more and more to gas is also one which is more than likely to produce sources of competition with the gas company which have as yet been undreamed of.

The constantly increasing use of machinery has resulted in a constantly increasing demand for fuel. Back in the days when all manufacturing was done in the home, the demand for fuel was at the minimum. Now, when machinery is relied upon to a greater and greater extent to relieve mankind of manual labor, the fuel demand is steadily increasing.

Not long ago we talked to a dozen or so women to see what their attitude was towards the man who rings the door bell. Strange to say, their answers were almost identical and for that reason we are going to set them down here just as they were worked out from our notes.

Converting an Inferior Into a Superior Fuel

Supply and demand enters in and the natural result is a higher priced fuel. Conditions have now reached a point where it is really worth while to find a satisfactory method of converting an inferior fuel into a satisfactory one which will show a high degree of efficiency. The pulverizing of coal was one of the first steps in this direction. The present tendency, however, appears to be along the line of liquefying or gasifying the coal.

The Bergius Process

In the Iron and Coal Trades Review of September 28 and November 16, 1923, there is a report of experts who visited works said to be of commercial size which are located at Mulheim-Rreinau, Germany, and where coal is liquefied by the Bergius process. This process subjects pulverized coal or an artificial coal substance to a high temperature and pressure, for example, 850 degrees Fahrenheit, and 3,000 pounds per square inch, with the result that the solid mass is converted into a thick liquid not unlike crude petroleum.

The products from this process consist of a light benzol, a heavy benzol, a light fuel oil, hydrocarbon gases of high heat value, and a heavy fuel oil. Such products as these make the process of importance where the supply of petroleum products is less than the demand. The gas is merely a by-product.

The Caracristi Process

Developments on low temperature distillation equipment are steadily being made, and in the American Gas Journal the process invented by Piron and Caracristi is mentioned. In this process the temperature of the coal being distilled is maintained through the medium of a lead bath at about 580 to 600 degrees Cent., the coal remaining in the furnace only seven to ten minutes.

The point is that these processes are being watched very closely by manufacturers. It may happen that the change over to gas on the part of some large manufacturer is not due altogether to the solicitations of the gas company. It may possibly be the first step in a well thought out and planned program for the economizing of fuel.

The constant increase in the use of motor vehicles, the development of the airplane industry, the changing to liquid fuel for domestic house heating, and other demands for liquid fuel, promise a good market for any good liquid fuels that result as a by-product of any process of gasifying or liquefying coal. The initial investment is the only thing that can be counted upon to prevent large manufacturers and perhaps manufacturers not so large from installing and using plants that transform low grade coal into liquid and gaseous fuels. As a matter of fact the process of doing so has already started.

New Competition for the Gas Company

Such competition as this is hard for the gas company to meet because of two things. First, gas companies as a rule are required to make and sell a gas conforming to certain specifications. Second, the average gas company is selling gas under a rate which requires the large user to pay more than his share of the income of the company.

If the looming competition is to be met with success, it is necessary that both these conditions be changed at the earliest possible moment. On the other hand, it is quite possible, if not probable, that they would not be changed if there was no competition to force the change.

The Electric Rates as a Model

Electric lighting company rates are held up as a model. There is no question but that they are good

(Continued on page 600)

Simplified Practice in Range Boilers to Expansion Tanks*

A GENERAL conference of representatives of manufacturers, distributors, jobbers, plumbers, and other groups interested in range boilers was held October 30, 1923, at the Department of Commerce under the auspices of the Division of Simplified Practice. This project is one of our extended series of simplifications, requested by various industries and directed toward waste elimination, which is being carried forward jointly by the U. S. Chamber of Commerce, the American Engineering Standards Committee and the Division of Simplified Practice of this department. The interest of the range boiler industry was developed through an exchange of correspondence with a large number of the manufacturers and the Fabricated Production Department of the U. S. Chamber of Commerce, which finally culminated in a preliminary conference on February 28, 1923.

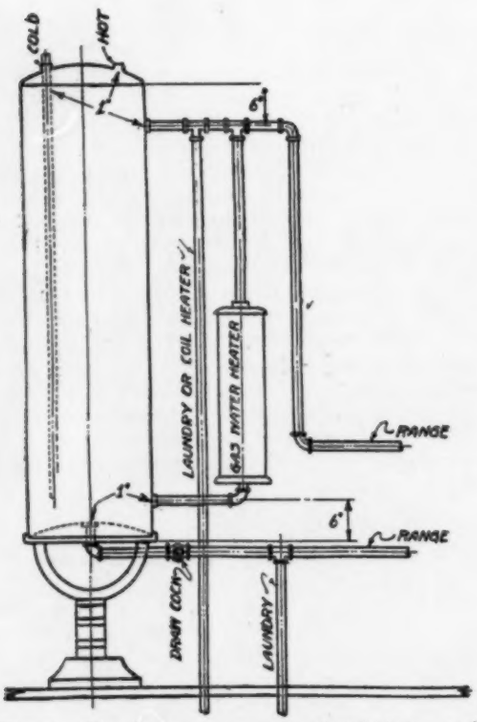


FIG. 6.—*Showing arrangement of tappings, and method of connecting to gas water heater, water front in kitchen range, and to laundry heater.*

Survey data collected in pursuance to a resolution adopted by the manufacturers in their preliminary conference with the Division of Simplified Practice February 28, 1923, were used as a basis for discussion and decision as to final eliminations. The data presented showed conclusively that the then current diversity in sizes and capacities of range boilers and expansion tanks had reached a stage where simplification was necessary to eliminate the wastes caused by excessive variety. After discussion of the probable effects of simplification on production, sale and use of range boilers the conference unanimously adopted the recommendations given, calling for 13 sizes instead of the 130 previously made.

Advantages

More saving to the consumer, less cost of installation, greater economy of fuel, with increased heating efficiency, are some of the advantages that may be derived by the adoption of these recommendations. One effect will be a reduction in the cost of installing and connecting a coal or gas water heater

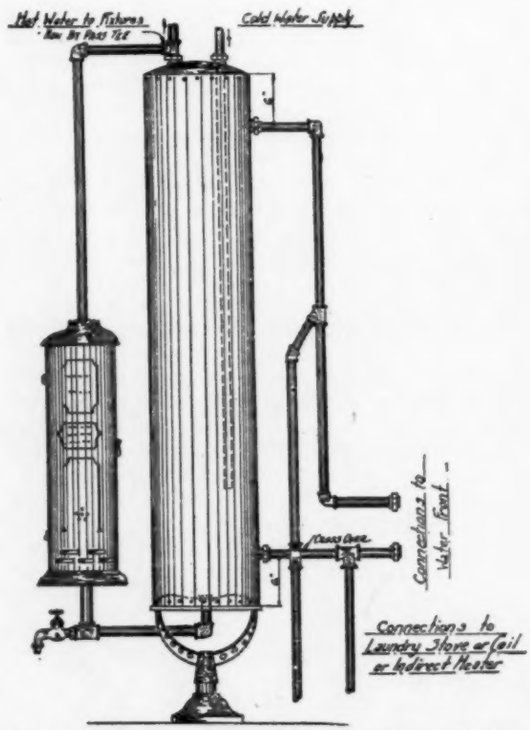

Hot Water to Fixtures
Cold Water Supply
Connections to Water Front
Connections to Laundry Stove or Coil or Indirect Heater

FIG. 7.—*Showing method of connecting to water front, gas water heater, laundry stove, or indirect heater.*

to the range boiler. The standard boiler sizes and tappings make it possible for the plumbers and gas companies to cut the pipe in their own shops instead of on the consumer's premises and to complete the entire job in about one-half the time formerly required, thereby effecting a great saving to the consumer on every boiler placed in service. Estimating the sale of new boilers during the next 12

(Continued on page 601)

*From U. S. Department of Commerce.

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT YOU CAN DO IT BETTER WITH GAS

Lesson No. 26

Calculation of radiation and convection heat losses

Radiation and Convection

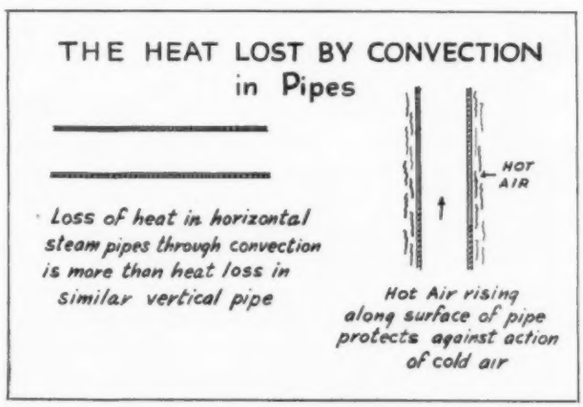
IN making calculations of the heat loss by radiation from a radiating surface, the heat lost by convection always enters into consideration. Thus, for example, if the problem relates to an exposed steam pipe, heat is lost from the pipe, not only by radiation, but by convection as well, caused by the movement of air currents surrounding the pipe. Hence it is advisable to include in this calculation the method employed in arriving at the heat loss due to convection.

Before discussing the method in detail it must be called to the attention of the reader that the theory states that heat losses by convection are independent of the nature of the surface. In other words, heat convection is the same, whether the surface is wood, iron, stone or other materials. It varies, however, for different forms and positions of surfaces. This is at once evident, when it is remembered that convection of heat from hot surfaces, exposed to the open air, takes place due to air currents which sweep over the surface or to the movement of air, when no air currents are present, caused by its very heating effected by the hot surface itself. The hot air becomes lighter, rises and is replaced by colder air. The form of the surface will, of course, determine the area exposed to air and the position of the same will be equally important. Thus, a steam pipe which is located in a vertical position will not lose nearly so much heat as one which is placed horizontally. One reason for this is that the air, heated by the vertical pipe, will rise upward along the surface of the pipe and will, accordingly, exert a protective action on the rest of the pipe against the chilling action of the colder air.

Loss of Heat by Convection in Horizontal Pipes

The following tabulation shows the number of heat units that horizontal pipes or cylinders lose by convection per square foot of surface per hour, for one degree difference in temperature between the pip and air:

External diameter of the pipe in inches	Heat units lost in B.t.u.
2	0.728
3	0.626
4	0.574
5	0.544
6	0.523
7	0.509
8	0.498
9	0.489
10	0.482
12	0.472
18	0.455
24	0.447
36	0.438
48	0.434


THE HEAT LOST BY CONVECTION
in Pipes
Loss of heat in horizontal steam pipes through convection is more than heat loss in similar vertical pipe
HOT AIR
Hot Air rising along surface of pipe protects against action of cold air

Reduction Factors in Heat Convection

In the case of convection of heat as well as radiation the loss of heat is about proportional to the difference in temperature between the hot and cold body for certain temperature ranges only, but even within those limits the result obtained by the application of this law are not absolutely accurate. Hence it is more accurate to multiply the results obtained in this manner by the factors given in the following tabulation:

Differences in temperature between the hot body and air. Degrees F.	Factor
18	0.94
36	1.11
54	1.22
72	1.30
90	1.37

108	1.43
126	1.49
144	1.53
162	1.58
180	1.62
198	1.65
216	1.68
234	1.72
252	1.74
270	1.77
288	1.80
306	1.83
324	1.85
342	1.87
360	1.90
378	1.92
396	1.94
414	1.96
432	1.98
450	2.00
468	2.02

How the Tables Are Used in Calculations

Let us suppose that it is desired to know the total heat lost by convection and by radiation from the surface of a steam pipe per foot of its length, when the area of the pipe per foot of length is 0.6 square foot. The temperature of the steam, which is at 60 pounds pressure within the pipe, is 307 degrees F. The temperature of the air surrounding the pipe is 67 degrees F.

The difference between the temperature of the surface of the steam pipe and the air surrounding it is 307 minus 67, or 240 degrees F. From a preceding table the heat radiated per hour per square foot per degree difference in temperature from the surface of the pipe is 0.64 B.t.u.

Application of Law of Cooling

By the application of the simple law of cooling the heat lost by radiation will be $0.64 \times 240 \times 0.6$, or 92.1 B.t.u. To this there must be applied a correction factor which is taken from the tabulation, giving the factors for different temperatures of air and different differentials in temperatures between the hot and the cold bodies. In this case the factor is found to be 1.98. The latter figure is found by interpolation between the values for a temperature differential of 234 and 252 degrees F. and an air temperature of 67 degrees F., located between the air temperatures 59 and 68 degrees F. in the tabulation.

The final result for the heat lost by radiation is then found by the following calculation: 92.1×1.98 or 182.5 B.t.u. This figure represents the total loss of heat by radiation per linear foot of the steam pipe.

Heat Lost by Convection

The heat lost per square foot per hour by convection is then to be calculated. The table, given above, in which the heat loss is given for various diameters of pipes, is used. The diameter of the pipe in question is first calculated from the area per foot of length, that is, 0.6 square foot. This is done by use of the following equation, which states that the area per foot length of the pipe, when the pipe diameter is given in inches, is equal to

$$\frac{\text{Pipe diameter in inches} \times 3.1416}{12}$$

Hence

$$\frac{0.6 \times 12}{3.1416}$$

gives the pipe diameter as 2.3 inches, approximately. By interpolating in the aforementioned table it is found that the heat loss through convection per square foot of surface per degree difference is 0.697 B.t.u. The temperature difference is 240 degrees F. and the area is 0.6 square foot; therefore, the total heat loss is found as follows:

$0.697 \times 0.6 \times 240$, or 100.3 B.t.u.

This figure must now be corrected by means of the factors in the convection heat loss table. The value for 240 degrees F. can be found by interpolation. This is found to be 1.73. Therefore, the total heat loss is found as follows:

100.3×1.73, or 173.8 B.t.u.

The total heat lost both through convection and radiation is, therefore, 173.8 plus 182.5, or 356.3 B.t.u. per hour per linear foot of the pipe. When this figure is divided by 240, the result, 1.486, is the B.t.u. of heat lost per degree difference in temperature per linear foot of the steam pipe, or, when divided by 0.6, it gives the heat lost per square foot, or 2.48 B.t.u.

*LIGHT OIL COMPOSITIONS IN CARBURETED WATER GASES—RELATION TO OPERATING PRACTICE AND GUMMY DEPOSITS IN PLANTS AND METERS—PLANT DATA

From basic data secured entirely from plant sources it has been found that thorough cracking of gas oil in carbureted water gas plants gives a light oil composition in the gas such that it gives little condensate (drip oil) and gummy material in the distributing systems, and this near the plant because the light oil is high in benzene and toluene—highly volatile constituents—and low in high boiling constituents and gum forming ones—indene and styrene—which give rise to most of the gummy deposits. This degree of cracking increases with increase of temperatures with decrease in rate of oil input and with increase of the closeness of checker brick spacing, all within the respective ranges of practical operation. Since it is possible for a gas thoroughly condensed at the plant to yield a condensate and deposits in cold meters, the true point of control is in the operation of the carbureting units as evidenced by the two plants cited as examples in which good cracking from the light oil standpoint is being secured and which rate high in cracking efficiency as well. The findings from plant data confirm fully the author's previous work on a laboratory scale and the subject matter of earlier reports on the gummy meter problem.

*Delivered by Ralph L. Brown and Henry G. Berger at the Washington convention of the American Chemical Society.

As The Journal Views It

CUSTOMER OWNERSHIP

Undoubtedly one of the most important movements today in the public utility industry is customer ownership. Too much cannot be said in commendation of this attempt to enlist the general public as stockholders of public utility corporations. This is true both from the standpoint of the public utility and of the private investor. There are many mutual advantages of real intrinsic value to be gained.

That is perhaps the most significant feature of the entire proposition. It is mutually advantageous to a high degree. It does not mean that the public utilities of the country are endeavoring to gain their point to the disadvantage of those who are persuaded to invest in their securities. It is by no means a one-sided proposition, and it is on this basis that each and every public utility corporation should broach the subject and give it due publicity among its customers.

What is there in it for the customer? Nothing more or less than an investment whose safeness has been attested to by the leading banking and financial authorities of the country. Public utilities securities of companies in high standing have been recommended to savings banks for investment of their funds. What more can an investor demand in the way of security? Savings banks are acknowledgedly the soundest institutions to which funds can be entrusted. They naturally pay small returns in the way of interest.

In utility securities the individual investor has the opportunity of securing almost twice as much return as from savings accounts by investing in the very same securities in which his money is ultimately invested by the savings bank in which it is deposited.

And what is the advantage that the public utility corporation, particularly the gas company, can derive from a customer ownership? What is there in customer ownership that has such an important bearing on any public utility? Is it merely a question of securing finances with which to carry out their work? Is it solely the stabilization of the market value of their securities by wide distribution of such securities? Is it merely a question of strengthening the credit position of the utility?

All these results are obtained through customer ownership, and they are all important. But important as they are, and as advantageous as they may be, they are not the real, fundamental, basic outcome of customer ownership. Not in them is to be found the reason why this movement may be called the most significant in the public utility field.

In customer ownership lies the real weapon with which the public utilities, particularly the gas utility, can combat the insidious influence of municipal control and operation. In spite of the experience that has heretofore been gained in this field by certain cities and towns, who, contrary to all advice, have attempted to run their own utilities, there are still numbers of people who believe that public ownership is a panacea for all utility evils. Furthermore, there are many others who are apt to believe the false arguments presented in favor of municipal ownership. It is perfectly proper for the gas companies and other utilities to combat this influence by propaganda, advertising, good will campaigns, and other means. Real results can be obtained in these ways.

There is no question but that once the individual is made a partner in the utility enterprises of his community he will be very much less apt to be influenced by demagogic argument against the utilities than if he had no financial interest in them. It is getting down to bare fundamentals. It is a question of his own interest that is involved with the interest of the public utility. Even if he is altogether friendly and altogether convinced that the utility is doing its duty and deserves fair play, he will be all the more so, and all the more the friend of the gas company if he has a financial interest in it.

There is no side-stepping this psychology and there is no reason why the gas company should have any qualms of conscience in taking advantage of it. The

consumer loses nothing; his money is safe and he gets a good return on it. The gas company gains the good will of the consumer in a way in which it cannot be destroyed by others. It should strive for the development of such conditions in its own community.

If the customers of the gas company are also investors in its securities, if injury to the gas company means injury to themselves, it stands to reason that they will take steps to see that fair play is given those who deserve it, and that undue political attacks on the gas industry in their community are not perpetrated. This means stability. This means the engendering of a feeling of good will which cannot die. It means that the gas industry, and all other public utilities, have a real, effective weapon, possessing much greater potency than any of those others that are now used in combating municipal ownership and government control.

A Fuel Program

An investigation by the Bureau of Mines into the fuel situation in Buffalo

A FUEL program for the city of Buffalo, N. Y., is embodied in a report recently made to that municipality by G. S. Brewer, assistant fuel engineer, Department of the Interior, and Benjamin Joy Hatmaker, consulting geologist of the Buffalo Department of Public Works, under a co-operative agreement between the Bureau of Mines and the Buffalo city authorities. This co-operative fuel survey is an outgrowth of a resolution adopted by the Council of the city of Buffalo under which the Commissioner of Public Works was directed to prepare plans for a municipal gas plant, to investigate the natural gas conditions of western New York with a view to ascertaining the possibilities of increasing supplies of natural gas, and was authorized to drill gas wells. This resolution was the result of an effort to meet a situation characterized by a rapidly failing supply of natural gas with increasing inconvenience to consumers, a high price for manufactured gas necessitated by obsolete equipment and financial difficulties of the company supplying manufactured gas and constant litigation with both gas companies over both the conditions of services and prices charged for gas.

Early in 1922, after the completion of the natural gas investigation, an agreement was effected between the city of Buffalo and the Bureau of Mines for a study of the entire fuel situation in Buffalo in the hope that the program formulated would offer a rational solution of the problem peculiar to Buffalo and be of value to other cities as well.

The Geographical Situation

Geographically, Buffalo is within easy access of the bituminous, anthracite and oil and natural gas fields of Pennsylvania and is in the natural gas field of western New York. It is about 25 miles from Niagara Falls, where large quantities of electric power are generated.

Two to two and a half million tons of bituminous coal is used per year in Buffalo. About a million tons is used by coke ovens for making metallurgical coke with by-product gas, part of which is distributed in the city. The remainder of the coal is used for heating large buildings, for some power purposes and for some industrial heating. This does not include coal used by railroads and steamships.

Anthracite coal consumption is 800,000 tons annually, used mostly for domestic heating. Only very small quantities of coke have been used for any but metallurgical purposes.

Gas Consumption in the City

Nine billion cubic feet of natural gas is used yearly for domestic purposes. Nine hundred million cubic feet of manufactured gas is annually supplied by coke ovens in and near the city and by water gas sets.

A general fuel program providing for the most efficient use of the most available fuels involves a policy of more extensive carbonization of soft coal, the gradual substitution of coke for anthracite coal, the use of gas for all purposes for which gas is preeminently suitable, the continued industrial use of bituminous coal where it can be used smokelessly, but the elimination of its use under any conditions which result in the production of smoke.

Bituminous coal would be the permanent basis of fuel supply. Two subordinate and temporary bases would be anthracite coal and natural gas. Gradually anthracite coal and natural gas will become more difficult to obtain, and the price will become higher. Bituminous coal, on the other hand, will be produced in quantities sufficient to supply the demand for heat for many years.

For industrial purposes such as producing power, heat for large buildings or other industrial uses, bituminous coal should be used with properly designed furnaces and stokers so that practically no smoke should be formed. As anthracite becomes scarce a substitute for it should be sought in coke made from bituminous coal in a suitable carbonization plant.

Manufactured Gas the Uultimate Fuel

The natural gas supply even now must be aug-

(Continued on page 602)

Catechism of Central Station Gas Engineering in the United States

Installment No. 26

(Continued from last week)

Construction of Condenser

It is divided into one gas and two water compartments, by two horizontal tube sheets, one placed from 18 in. to 30 in. from the top and the other the same distance from the bottom. In these sheets are expanded a number of tubes, which run through the large gas compartment and open into the smaller water compartments at the top and bottom. Water under pressure being run into the bottom compartment rises through the tubes to the top compartment, from which it overflows. The hot gas is admitted at the top of the gas compartment and passes down around the tubes and out at the bottom, becoming cooled as it descends. In this way the hot gas comes in contact first with the part of the tube containing hot water, and then, as it descends, with the parts containing cooler and cooler water, so that the cooling of the gas should take place gradually. It is found, however, that it is a very difficult matter to regulate the water supply in this form of condenser, so as to both cool the gas thoroughly and at the same time prevent the cooling from taking place suddenly in a space extending over not more than one-quarter to one-third the total height of the condenser.

Rectangular Multitubular Condenser

Sometimes in works making over 500,000 cubic feet per day there is used a rectangular multitubular condenser made not more than 12 ft. high, 5 ft. wide, and of a length proportioned to the amount of gas to be handled. The shell of this condenser is made of cast iron plates, and the long gas compartment is divided by vertical transverse partitions with openings alternately at the top and bottom, so that the gas traveling through it passes alternately up and down. The water compartments are also divided by similar partitions so placed in each compartment that the water travels up the tubes which pass through the spaces in which the course of the gas is downwards, and down the tubes passing through the spaces in which the course of the gas is upwards. The cold water is admitted at the end at which the gas passes out, and the hot water passes out at the end at which the gas enters, gas and water thus traveling always in opposite directions. With such a condenser properly proportioned to the amount of gas to be handled, the cooling of the gas can be effected very gradually and the difference in temperature of the gas and water at any given point need not exceed 5 deg. F., and by care can be kept still lower. The first cost of the apparatus is, however, greater than that of vertical condensers rated at the same capacity.

Both of these forms of multitubular condensers are also modified by making the gas pass through the tubes, which are then surrounded by the water.

All of the types of condensers described must, of course, be furnished with suitable overflow connections for the condensed liquids, and every condenser should be equipped with two thermometers for ascertaining the temperature of the gas, one at the inlet and one at the outlet, in addition to which water condensers should also be provided with thermometers for determining the temperature of the water as it enters and leaves the apparatus.

English Practice

In English practice, with atmospheric condensers, 10 square feet of surface, including all exposed pipes from the hydraulic main to the outlet of the condensers, are allowed for each 1,000 cubic feet of gas made per twenty-four hours. In this country it is usual to allow in water tube condensers from 4 to 5 square feet of tube surface for each 1,000 cubic feet of gas made per twenty-four hours, but if it is desired to cool the gas very gradually and not to have more than 5 deg. difference between the temperature of the gas and that of the water at any given point in the condenser, it is necessary to allow from 8 to 10 square feet of tube surface.

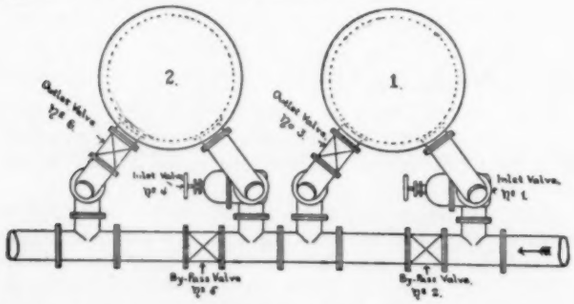
The By-Pass

138. What is a by-pass? Give a description, illustrated with sketches, of a by-pass for two vertical, multitubular condensers.

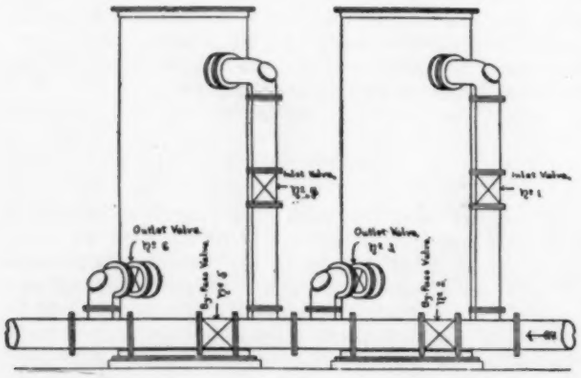
Ans. A by-pass to any part of the apparatus of a gas works is a system of pipes and valves so arranged that by opening one or more valves, and closing others, the gas flowing may be directed either through, or past, that part of the apparatus concerned.

The accompanying cut shows a by-pass for two vertical, multitubular condensers, so arranged that either one or both of them may be thrown out of action at any time without interfering with the working of any of the rest of the apparatus. When both condensers are in action, valves Nos. 1, 3, 4 and 6 are open and valves Nos. 2 and 5 are closed. To throw condenser No. 1 out of action while leaving No. 2 at work, valve No. 2 must be opened and Nos. 1 and 3 closed. Again, starting with both condensers at work, to leave No. 1 in action and throw out No. 2, valve No. 5 must be opened and Nos. 4 and

6 closed. When both condensers are to be thrown out at the same time, valves Nos. 2 and 5 must be opened and Nos. 1, 3, 4 and 6 closed.



By-Pass for Two Vertical Multitubular Condensers.



Order of Steps in Condensation and Purification of Coal Gas

139. Name, in the order in which the gas should be subjected to them, beginning at the outlet of the hydraulic main, the various steps to be taken in the condensation and purification of coal gas, and state the temperature that should be possessed by the gas at the beginning and end of each step.

Ans. There is a difference of opinion among engineers as to the first step to be taken in the condensation and purification of coal gas as it leaves the hydraulic main. While there is no question that the heavy tar should be removed before the temperature of the gas has fallen below 100 deg. F., it is claimed by some engineers that better and more uniform results are obtained from the tar extractor when the gas reaches it at a uniform temperature between 110 deg. and 120 deg. F. than when its temperature is allowed to be above this, and they therefore advise a preliminary cooling, under control, for the gas, which leaves the hydraulic main at temperatures varying from 140 deg. to 130 deg. F., before it goes into the tar extractor. Other engineers take the gas through the tar extractor with only such cooling as it gets in the pipe through which it passes, and some even go so far as to jacket this pipe to prevent any loss of heat. In most cases of recent construction the preliminary cooling has been adopted and is effected by the use of an annular atmospheric condenser, provided with means for regulating the amount of air flowing through the central opening and, consequently, the amount of cooling suffered by the gas.

Removal of Heavy Tar

As is implied by what is stated above, the next step is the removal of the heavy tar by some form of tar extractor which acts by friction and without affecting the temperature to any appreciable extent, and the gas should enter this piece of apparatus at a temperature not lower than 100 deg. F. and leave it with a loss of not more than two or three degrees.

After passing through the hot tar extractor the gas is ready to be cooled gradually in water condensers by which its temperature should be reduced to 60 deg. F. In cold climates there would not seem to be any objection to, and there might very possibly be an advantage in, cooling below this point, since the gas is certain to be cooled below it in the holders and street mains, and the gradual cooling that can be given in the condensers is less harmful than a sudden cooling later.

Removal of Ammonia

After being cooled, the next step is the removal of the ammonia by means of washers or scrubbers, or a combination of the two, the temperatures being kept during this process at as near 60 deg. as possible.

The final step in the purification of the gas is the removal of the sulphuretted hydrogen, and, when advisable, also of the carbonic acid contained in it. This removal can be effected most economically at a temperature of from 100 deg. to 110 deg. F. and the gas should be heated up to this point at the inlet to the purifiers. This heating can be done by steam either allowed to mix with the gas, or, preferably, passed through a coil of pipe in the bottom of the first box in the series.

As will be noticed, no mention of the exhauster is made above since it is not, strictly speaking, part of the condensing and purifying apparatus, all of which will work in exactly the same manner and at the same temperatures whether an exhauster is used or not.

Results Obtained by Condensation Operation

140. What are the results sought to be obtained in the condensation of illuminating gas during its manufacture, and what are the precautions to be observed in carrying on this process in order to secure the cooling of the gas to the proper point with the smallest loss of candle power?

Ans. The results which are sought to be obtained in the condensation of illuminating gas are the complete and harmless removal from the gas, in a condition and at points that permit of their being easily handled, of those vapors, the deposition of which, inevitable under conditions certain to be met with as the gas travels through the works and the mains, will cause great annoyance and damage the illuminating power of the gas if not effected at the proper points and in the proper manner. At the same time

no vapors should be taken out that the gas can be made to retain with advantage. Condensation is perfect only when the gas leaves the apparatus containing just the amount of hydrocarbon vapors that will fully saturate it at the minimum temperature and maximum pressure to which it is to be subjected in the distributing system.

To secure this result and so secure the cooling of the gas to the proper point with the least loss in candle power, the following precautions must be observed: All heavy tar should be removed from the gas before its temperature has fallen below 100 deg. F. Contact between gas and heavy tar should be reduced to a minimum, and the gas should never be allowed to bubble through tar. The foul main should be protected to prevent any marked drop in the temperature of gas while passing through it. Sudden chilling of the gas is to be avoided, especially during the last stages of condensation, and the reduction of temperature between the outlet of the hot tar extractor and that of the condensers of ample capacity, the proper handling of which is secured by keeping a careful watch on the temperature at all points in the apparatus and varying the conditions accordingly.

Necessity of Removing Tar and Oily Matter Before Gas Enters Scrubbers

141. Why is it important that all tar and oily matter should be removed from the gas before it enters the scrubbers and purifiers?

Ans. If the tar and oily matter are not removed from the gas before it enters the scrubbers in a coal gas works, they will coat the material in these vessels with a greasy film, that will prevent the water from being spread out and presented to the gas in thin sheets covering the whole surface of the material, and will thus render the contact between water and gas imperfect, with a consequent reduction in the efficiency of the apparatus. If the scrubbers are filled with coke the deposition of the tar will also fill up the pores of the coke and the spaces between the different lumps, and by thus closing up the channels through which the gas has to pass, will cause the scrubbers to throw a high pressure and make it necessary to remove the coke much oftener than would otherwise be the case, increasing in this way, quite considerably, the cost of material and handling.

Effect on Purifiers

The presence of tar and oily matter in the gas produces a similar effect in the purifiers. The friction to which the gas is subjected in passing through the purifying material, causes the tar and oil to be deposited, coating the different particles of the material with a film that prevents any contact between them and the gas, and thus renders them incapable of doing any of the work of purification. If either tar or oil is present in sufficient quantity, its deposition makes the material at the bottom of the first purifier moist and soggy, and when in this state it is very difficult for the gas to pass through it, so that it is often necessary to change the purifiers, on account of excessive pressure, before they are foul. This further increases the cost of labor in addition to the increase in cost of both labor and material caused by the material being rendered inefficient. In the case of iron oxide the oily film on the particles prevents revivification as well as purification, the material lying next to the bottom trays being made unfit for further use, the effect extending to a greater or less distance from the bottom according to the amount of tar and oil in the gas.

In addition to the main effects noted above, the coating of the scrubbing and purifying materials with a film of tar and oil, by causing intimate contact between tar and gas, also reduces the candle power of the gas to a slight extent.

Effect of Condensation Process on Gas

142. What is the effect upon gas of the process called condensation?

Ans. "Condensation is that process which, partly by cooling and partly by friction, removes the tar and oily vapors from the gas. Care is taken not to accomplish this too quickly, lest by sudden changes of temperature, some of the hydrocarbons valuable for illuminating purposes are thrown down and the gas thereby impoverished."

Condensation is theoretically perfect only when the gas leaves the apparatus containing just enough hydrocarbon vapor to fully saturate it at the minimum of temperature and maximum of pressure to which it is thereafter to be subjected. This theoretic perfection can be only approximated in practice.

Radiating Surface Required

143. How many square feet of radiating surface should be allowed per 1,000 cubic feet of gas to be handled per twenty-four hours in rating the capacity of atmospheric condensers and of multitubular water condensers?

Ans. In England, where atmospheric condensers are much more commonly employed than is the case in this country, a very generally accepted rule for the amount of surface required in such condensers is thus stated in King's Treatise: "Under ordinary circumstances, where an atmospherical condenser is employed, the condensing pipes, measured from the hydraulic main, should have a superficial area of 10 square feet for every 1,000 cubic feet maximum production per diem." Some authorities, however, allow only 5 square feet of area per 1,000 cubic feet per day when the condensing pipes are made of wrought iron. Some calculations made by Mr. W. H. Y. Webber show that under the conditions assumed by him from 3.5 to 4 square feet per 1,000 cubic feet of gas would be sufficient. But in these calculations there is apparently no allowance made for the latent heat of the aqueous vapor condensed out of the gas as the temperature is lowered, and when this allowance is made, the surface required is increased to 5 square feet. As, however, the whole surface must be at its maximum efficiency to obtain this figure, it is safer to take the larger area mentioned above as being the best to adopt in practice.

Area of Cooling Surface Required

The area of cooling surface required in multitubular water condensers, where the difference in temperature between the gas and the cooling medium can be regulated at will, depends, naturally, upon what difference is to be maintained. If it is not to exceed 5 deg. F. and the gas is to be cooled gradually from a temperature of 120 deg. F. to one of 60 deg. F., 8 square feet of tube surface will be required for each 1,000 cubic feet of the maximum production per day. But, if it is assumed that it is permissible to allow an extreme difference of 63 deg. F. between the temperature of the gas and that of the water at the gas inlet end of the condenser and an average difference of 36.5 deg. F., as has been done in the case of some condensers of this type designed for the South Metropolitan Gas Company of London, England, it is only necessary to have 1.71 square feet of water cooled surface and 1.19 square feet of air cooled surface per 1,000 cubic feet of gas per day.

The multitubular condensers made by one of the large manufacturers of gas apparatus in this country are rated at a capacity which allows about 4.2 square feet of tube surface per 1,000 cubic feet of gas per day. If the water is passed through the tubes and the gas outside of them, the shell affords about 1 square foot of air cooled surface in addition to the water surface. When the gas is passed through the tubes there is no air cooled surface except the small amount around the gas spaces at the top and bottom. These condensers will show average differences in temperature between gas and water of over 10 deg. F. and are apt to cool the gas very suddenly at some one point instead of doing it evenly and gradually.

As the weight of authority and experience is still to the effect that sudden and rapid cooling of the gas is detrimental to the securing of good candle power results, it is advisable in designing multitubular condensers to adopt the largest figures for tube surface that are given above and to provide 8 square feet of surface for each 1,000 cubic feet of the rated maximum capacity per day of the condensers.

If both atmospheric and water condensers are used the area of tube surface in the latter can be reduced in proportion to the area of air surface provided in the former.

Area of Purifier Boxes

140. How would you determine the area of the purifying boxes required to purify economically any given amount of gas per twenty-four hours?

Ans. As four-box sets of purifiers are, for many good reasons, the most commonly adopted, this answer treats of such sets only.

The proper area to be given purifying boxes in four-box sets, in order that they may purify economically a certain amount of gas, is determined by empirical rules that have been deduced from the results of experience. The rule that is commonly accepted as correct in England is given in the Sixth Edition of Newbigging's Handbook as follows: "Where there is intended to be four purifiers, three always in action, the maximum daily (24 hours) make of gas, expressed in thousands, multiplied by the constant 0.6, will give the superficial area in feet of each purifier." According to this rule there must be provided 60 square feet of area in each box for every 100,000 cubic feet of gas to be purified per twenty-four hours. As it is not stated what purifying material is to be used in the boxes, it is to be presumed that the rule is intended to apply to both lime and oxide of iron.

Comparison With English Rule

Since the quantity of sulphuretted hydrogen and other sulphur compounds in the gas determines the amount of work to be done in the purifiers, and the English gas coals contain more sulphur, on an average, than the American coals, the English rule may very possibly give an area that is larger than it is necessary to have in this country. For although the work done by a bushel of lime, or a bushel of oxide of iron, per change (which in the case of lime is the whole amount of work obtained) increases with an increase in the ratio between the area of the boxes and the amount of gas to be purified per day, and the cost of labor per 1,000 cubic feet (and in the case of lime of material also) is thus reduced, the increase in size carries with it an increase in the fixed charges for interest and depreciation on the cost of purifiers and of the house in which they are enclosed, which must sooner or later balance the reduction in operating expenses. The most economical area is therefore that which gives the smallest total for the costs for labor and material and the fixed charges.

The Trustees are not aware of anything having been published in which the question of the balancing of these two items of cost against each other is treated with regard to purification by lime, so for lime purifiers there are no data from which to determine whether the rule given by Newbigging is correct for American conditions. The cost of labor and material being larger with lime than with oxide, lime purifiers must be made larger than oxide purifiers to obtain the most economical results, but with the present knowledge it cannot be said exactly how much larger they should be.

Most Economical Size

For purification with oxide of iron, the subject of the most economical size of purifiers for use with carburetted water gas has been investigated by Mr. J. A. P. Crisfield, and the results obtained are given in a paper read by him in October, 1893, before the American Gas Light Association, and published in the Proceedings of the Association, Vol. X, page 217, and in the American Gas Journal, Vol. L, page 633, and Progressive Age, Vol. XI, page 356.

(Twenty-seventh Installment Next Week)

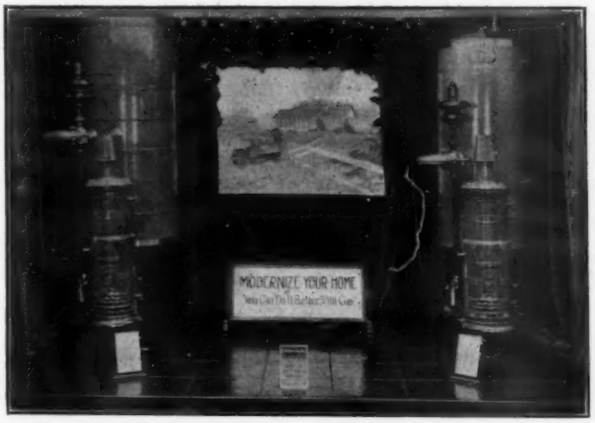
THE ART OF WINDOW DISPLAY

(Continued from page 588)

business, where it can be done profitably. This aim can be accomplished only through the widespread sale of gas using appliances. Inasmuch as window and store display is advertising and selling, its use for this purpose, if done effectively, can be made a potent factor in the sale of these appliances.

Laying Foundation for Successful Display

No concern selling such things as gas appliances can jump into successful display at one leap. It takes careful preparation of both the personnel and the store equipment before good results can be obtained. The foundation for such display must be laid with care.



Gas for Heating and for Cooking Make Effective Displays

In each organization the securing of a competent director of display is essential to the success of such an enterprise. This man must have a broad understanding of such work as pertains to display in general, and in addition he must know gas and gas merchandise. Moreover, he must know the public and its needs, as well as his own company and the merchandise it carries.

The Director of Window Displays

The director should work exclusively with the management. It is his business to put across to the public the story which the management desires told to them. This must be done through the medium of display both in the store and in the windows. He is, then, responsible for portraying the policy of the house to the community.

As the organization grows, he should not attempt to carry all the details of production and the setting of the proper window and store displays, but should surround himself with a capable staff from the different professions skilled in the planning and producing of modern displays.

The entire organization must then be sold on the idea of successful displays in order that that co-operation which is necessary for the success of any project of this kind may result. Opposition on the part of the management, the sales force, or even the rank and file of the company's employees, will retard the development and success of this undertaking. Enthusiastic support of this work, on the other hand, will aid its successful operation.

Developing the Personnel

As has been said, the display of gas appliances is different from that of most other products. These articles are cold, and somewhat unattractive in nature. Many of them represent merely a service which the purchaser wants performed without his having to bother with the appliance itself. This is true of the water heater, the gas-fired boiler, the refrigerator, etc. Because of these characteristics, then, display of such articles is not only difficult, but also different from that of the ordinary merchandise which renders a service more direct than that of the gas appliance.

This difference in display of gas appliances makes necessary the development of a display staff within the organization. Few men, having experience in the utility appliance display field, are available, for this branch of display has not been well developed as yet. Experienced men in other display lines may be had, however, and when they have had the training in this special field of display they make good staff men.

Example of Successful Display

The People's Gas Light and Coke Company of Chicago has made a success of its window and store dis-

Gifts for the Bride—A Well Planned Display of Those Small Articles Not Usually Brought to the Public's Attention

plays. This result has been accomplished through a careful study of display as it applies to the sale of its merchandise. Moreover, a competent director of display has been secured, and he has chosen and trained an effective staff. In addition, the management, and the rank and file of the company's employees, have supported this movement so that the best of results has been possible. The excellence of this work may be judged from the accompanying photographs of a few of its displays.

Prolonged Effort and Attention to Details

Results in the advertising and selling type of store and window display cannot be seen immediately, especially in the gas appliance field. It takes time to build up a personnel capable of handling this work, as well as a management capable of applying the results achieved to the greatest advantage. Both the display personnel and the management must be educated together. Moreover, the public must be led gradually to see and to appreciate the displays which are made.

Too many merchandisers try out window and store display for a short time and then discontinue it because of the poor results obtained. Such poor results may follow wrong methods of display, poor leadership, or lack of co-operation on the part of the management or the sales force. The chief cause of failure, however, is usually the discontinuing of display efforts before good results could be expected. Long sustained effort with good methods and with proper co-operation from everyone in the organization is essential to the effectiveness of window and store display.

Attention to details is also necessary if display is to be of the highest order. Many fair displays could be made into excellent ones if the minute details which are essential were properly to be taken care of. Completeness of detail reveals the experienced display artist.

Window and Store Display Essential to Greatest Gas Development

If gas companies are to realize their greatest possible development, they must make use of the best methods of merchandizing gas consuming appliances. Window and store display con be made an effective aid in this expansion program. If the display in store and windows is as well planned as the advertising and sales campaign, if the display staff is competent and well trained in this phase of display work, and if sufficient co-operation on the part of the management and the employees of the company is assured, the desired expansion will be forthcoming.

COMING GAS COMPETITION

(Continued from page 589)

rates. They have been worked out so that each customer comes very nearly paying in proportion to the cost of rendering the service. It was competition, however, that resulted in the adoption of these rates and many a central station never adopted them until forced to do so.

Competition from Isolated Gas Plants

To date there has never been any serious competition to the gas company from isolated gas plants. The day is rapidly approaching, however, when this will not be the case. In order to introduce on a commercial scale some of the new processes, they will have to be sold to industrial concerns. Within the next ten or twenty years we may expect to see in operation in large mills and factories gas making plants of a type never yet seen.

Whether or not these will produce a higher or a lower heat value gas than now being sold by gas companies remains to be seen. There is reason to believe, however, that it will lead to the selling of gas on a heat basis rather than on a cubic foot basis.

Effect on Rates and Rate Systems

It is quite certain that it will lead to the adoption of rates and rate systems which will permit gas companies to secure the maximum volume of business. Unless such rates and systems are adopted the gas company stands to lose a lot of business, especially that of the larger customers, which are also the most profitable customers. No board of directors is long going to sit still and let this process go on, especially if it is made plain to them with figures that cannot be questioned that the business is being lost because the system under which gas is being sold is wrong. Today a change to a system the company is not already using means a more or less expensive readjustment of the accounting system and it is bound to mean a temporary falling off in revenue. With competition from isolated plants becoming keen, the revenue will begin to fall off before the system is changed and it will be necessary to change it in order to increase the revenue and make the company show a profit.

When this is the condition of affairs we may expect a more rapid progress in the gas business than has ever before been made. There is a certainty that in the near future there will be an isolated gas plant competition far more keen than anything that has ever before existed in the gas business. However, since the isolated gas plant competition has done more to make the development of the central station business rapid than it has to hurt that business, we may expect this coming competition, this competition, in fact, which has already begun to a certain extent, to prove a real blessing to the industry. It is going to mean developments resulting in higher gas plant efficiencies, in better distributing systems, in rational rate systems and in other changes, all of which will prove beneficial to the gas industry and changes which would be slow in the making if not hurried by competition.

(Editorial Note: The views expressed in this article are just those of the author. The editor assumes no responsibility for them and presents this article to the gas industry for any value or interest that it may have.)

SIMPLIFIED PRACTICE IN RANGE BOILERS TO EXPANSION TANKS

(Continued from page 590)

months at 1,000,000—a conservative figure, according to manufacturers—it is calculated that the immediate saving to the public will be $4,000,000. There must also be added to this initial saving another $1,500,000, representing a secondary saving in fuel consumption resulting from increased heating efficiencies made possible by the new standards, according to engineers of the American Gas Association. The total annual saving to the public, therefore, may be about $5,500,000.

It can not be denied that savings of this caliber will have a strong tendency toward increased small-house construction and ownership by the average American worker.

Range Boilers

Sizes (inches) Diam.[1]	Length[2]	Capacities (gallons)	Sizes (inches) Diam.[1]	Length[2]	Cap. (gals.)
12	36	18	18	60	66
12	48	24	20	60	82
12	60	30	22	60	100
14	48	32	24	60	120
14	60	40	24	72	144
16	48	42	24	96	192
16	60	52			

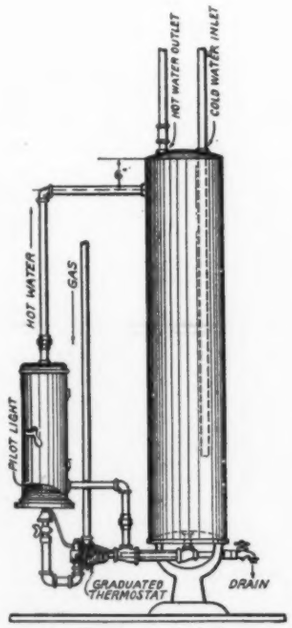


FIG. 3.—*Showing method of connecting range boiler to gas water heater with graduated thermostat.*

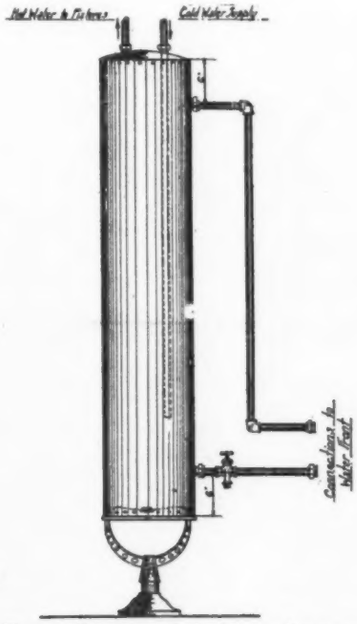


FIG. 4.—*Showing method of connecting range boiler to water front.*

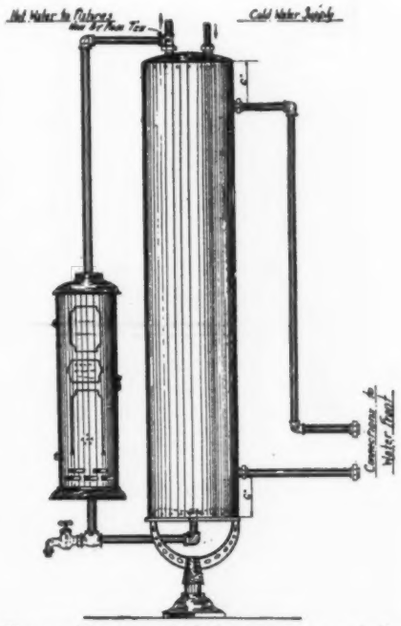


FIG. 5.—*Showing method of connecting range boiler to water front and gas water heater.*

Sizes of Range Boilers

In accordance with the unanimous action of the joint conference of representatives of manufacturers, distributors, and users of range boilers and expansion tanks, held on October 30, 1923, the United States Department of Commerce, through the Bureau of Standards, recommends that the recognized sizes and capacities of range boilers and expansion tanks be reduced to those shown in the following table:

[1]Diameters refer to inside measurements.

[2]Lengths mean lengths of sheet, not over-all lengths of boilers.

Note—Range boilers may be made in two classes: "Standard" 85 pounds working pressure and "Extra heavy" 150 pounds working pressure.

Recommendations

It is further recommended that:

I. Range boilers have one side tapping 6 inches from the top and one 6 inches up from the bottom (measurements to be made from the edge of the shell plate), and two tappings in the top and one in the bottom. All tappings to be 1 inch; ½-inch top and the ¾-inch side and bottom tappings on vertical boilers to be eliminated.

II. The "short size" boiler (that is, 12 by 58 inches) now used in New York, N. Y., be eliminated.

III. Five 1-inch openings be considered as standard for horizontal boilers.

IV. The 16 by 48-inch boiler be advertised as of its actual capacity (viz., 42 gallons), in lieu of No. 18 to avoid confusion with present 18-gallon boiler.

V. All range boilers and combination boiler and gas water heaters be rated by their actual water capacities in gallons.

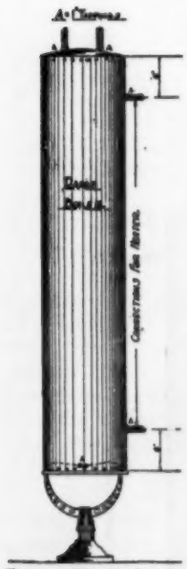


FIG. 1.—*Showing location of tappings.*

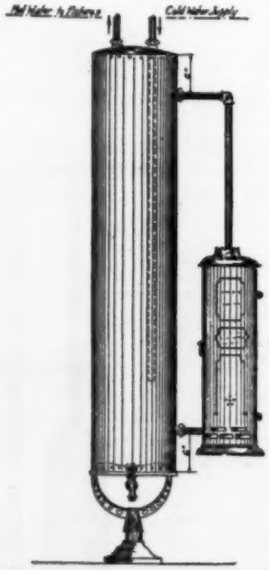


FIG. 2.—*Showing method of connecting range boiler to gas water heater.*

GAS SALES STIMULATION

The Bulletin of the Gas Sales Stimulation Committee of the Commercial Section of the A. G. A., dated June 15, contains the following items:

1.—It announces the selling of the Workless Laundry. This is in the way of a complete outline of the campaign and the organizatzion of the sales drive, newspaper advertisements, etc.

2—"Selling the Builder and Architect." This part of the Bulletin shows that gas sales can be increased through co-operation with the architect, builder and contractor.

3—Breaking the Ice for a New Industrial Department. This describes how the work of the department can be organized and gotten under way.

4—Home Service Publicity. This shows how newspapers and home service can be connected, so as to give due publicity to what those departments of the gas company are doing.

A FUEL PROGRAM

(Continued from page 594)

mented with manufactured gas to supply the domestic demand. As the supply of natural gas becomes more and more inadequate, manufactured gas made from bituminous coal should be mixed with the natural gas to increase the supply. Gas so made can be supplied in any desired quantity and, by proper manufacturing procedure, can be made uniform in quality. As natural gas and anthracite coal become scarcer, the whole fuel supply of Buffalo will depend to a great extent upon the bituminous coal, manufactured gas and coke being made in the same carbonization plant to supplant natural gas and anthracite coal.

The present report contains a discussion of factors determining the selection of a gasification plant; a description of the various types of gas-producing plants; a survey of natural gas resources available for Buffalo, etc. Copies of this report may be obtained from the Department of the Interior, Bureau of Mines, Washington, D. C.

THE HOME SERVICE COMMITTEE'S PLANS FOR 1924

Two pages in each issue of the monthly sales service, soon to be published, will be devoted to the organization and operation of such departments. These pages will include special articles, tested ideas and miscellaneous information that can be readily utilized by gas companies to further increase the usefulness of home service departments.

The title of some of the articles which will soon appear follow:

1. How to organize, proper personnel. Training of women for such work. Sources of supply for demonstrators.
2. Activities of home service department. How to get an audience. How to reach your public. Home-makers' page in local papers. Radio.
3. Model kitchen and lecture room.
4. Home demonstration work.
5. Lecture demonstration work before clubs, schools. How to co-operate with domestic science classes of public schools.
6. How to build a lecture demonstration. (a) The practical demonstration. (b) The lecture.
7. Good-will, making friends for the gas company.
8. Each month, space devoted to questions and answers, on the foregoing subjects.

THE ACCURACY OF A METER

A residence gas meter in continuous service for 27 years was recently removed in a Michigan city and tested and found to be 100 per cent accurate.

Summer Sales Conference of the American Gas Association

THE American Gas Association has issued a descriptive folder which sets up a proposed plan for holding a Summer Sales Conference for managers and sales executives.

The gas conference is to take place at the Milbrook Inn, Milbrook, New York, on August 3 to 9, inclusive, and Aug 10 to 16, inclusive.

In announcing this conference the statement is made that the happy combination of a business and recreation program has never been attempted heretofore, but from the comments of those with whom the matter has been discussed it has met with a favorable response. The Commercial Section of the American Gas Association is of the opinion that this conference will prove a profitable investment for the companies whose men are permitted to attend.

Origin of Conference

The origin of the conference is to be found in a meeting held in Chicago early last spring by the Commercial Managing Committee, at which time a discussion was held on the ways and means for the realization of the slogan "50 per cent increase in gas sales during the next three years." The suggestion of a summer conference of this sort was met with an instant approval.

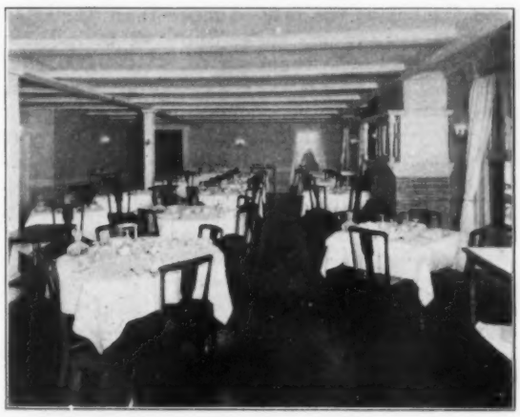
The subjects to be discussed will be in the nature of "Round Table" discussions rather than the formal reading of papers as in the typical convention. A broad basis for the discussion will be employed, but special attention will be paid to the study of plans for the more intensive cultivation of our present markets along existing lines and to ideas for expansion of gas sales in new markets.

The Program

The business sessions will be held during the morning from Monday to Friday, inclusive, and stenographic records will be held of these meetings. The topics for discussion will be as follows:

New Business Development and Sales Stimulation.
A New Note in Business Administration.
Direct Advertising and House Organs.
Newspaper Space and Its Proper Use.
Effective Displays for Windows and Show Rooms.
Selling the Consumer Direct.
Compensation for Sales Representatives.
Home Service—Reaching the Housewife.
Gas Trade Co-operation.
The A. G. A. Central Testing Laboratory.
Selling Specification Goods.
Customer Ownership.
Discussion of Queries from the Question Box.

Accommodations are exceedingly fine, as can be seen from the accompanying photograph. Millbrook Inn is an excellent club house. Inasmuch as the conference will be held during vacation period, it is suggested that married men bring their wives, who will enjoy an unusual and novel outing. It is stated that no applications will be accepted for less than a period of one week and that the conference will be divided into two groups at the aforementioned dates, each group being limited to fifty members and their wives.



All sorts of recreation features will be provided for, such as golf, tennis, swimming, baseball, archery, volley ball, quoits, etc. It is expected that the conference will not only be exceedingly valuable from a business standpoint, but it will provide an opportunity for the members to get better acquainted and to establish friendships under particularly pleasant circumstances.

For further information and details address Louis Stotz, American Gas Association, 342 Madison avenue, New York City.

Important Resolutions Adopted

By Executive Board A. G. A.

THE American Gas Association has issued a descriptive folder which sets up a proposed plan for holding a Summer Sales Conference for managers and sales executives.

The executive board and advisory council of the American Gas Association, at a conference called to consider the future policy of the industry, were deeply impressed by the necessity of conserving coal and oil, two of the greatest natural resources of the United States, of increasing the efficiency and economy of gas service to present consumers and of broadening the field in which gas service can be profitably applied to new uses.

It was the consensus of opinion that to accomplish the above, the co-operation of the various Public Service Commissions is necessary and that they should be earnestly requested to support the following program:

(1) Abolish the candle power standards where they are still in effect.

(2) Substitute for a uniform state-wide standard such local standards of calorific value per cubic foot as each gas company may find will enable it to give good and economical service to its customers, to economize in the use of oil and to increase the output of gas per ton of coal by supplementing gas produced in existing apparatus with gas produced by apparatus designed to secure the complete gasification of coal, which supplemental supply would probably be an economical and efficient product of not less than 300 B.t.u.'s per cubic foot.

Such flexibility in calorific standards should necessarily be accompanied by flexibility in rates charged. It is essential that the companies be permitted to adopt rate schedules based on sound and logical analyses, and proper allocation of all expenses, including a fair return.

We believe that the adoption of the three-part rate already endorsed by the American Gas Association is essential.

INVEST $3,500,000 DAILY IN UTILITIES

Striking proof of the tremendous expansion now taking place in the public utility industry of the country is afforded by figures just made public by the Commercial and Financial Chronicle.

During April the utilities secured $116,000,000 of new money for extensions, additions and betterments. This is at the rate of more than $3,500,000 a day for every day in April, Sundays included. It compares with total financing of $90,000,000 during March, or about $2,900,000 a day. The April figure, it is understood, is a record breaker.

Equally interesting are figures showing corporate financing for the first four months of the year. Here again the utilities led all others, with a total of $411,477,000 to their credit, or at a rate of about $3,400,000 a day, Sundays and holidays included, for the 121 days ending with April. These figures are believed to represent the largest amount of continuous financing ever undertaken by any industry in the country.

Up to April 30, this year, the public utilities had obtained in new money more than twice as much as the railroads, nearly ten times as much as the iron, steel, coal and copper industries and more than twenty times as much as the equipment manufacturers.

PAINTINGS OF STRIKING SCENES IN GAS INDUSTRY

The American Gas Association has commissioned Fred. L. Stoddard, a well-known painter of public utility and industrial scenes, to prepare eight original oils on the manufactured gas industry.

In their original size the paintings will be about 30 by 42 inches, and they will depict striking scenes in the industry that will lend themselves to publicity, advertising and booklet treatment later on. It is planned to make the first showing of the paintings at the October convention.

Among the subjects to be treated are, customer ownership, industrial gas, the place of modern gas-burning equipment in the life of the American woman, gas fuel as a conserver of natural resources, the historical importance of the industry, the "all gas town" of the future, etc.

FUNCTIONS OF THE HOME SERVICE DEPARTMENT

A special report has been issued by the Gas Sales Stimulation in connection with the functions of the Home Service Department. This report contains three parts:

1—The Real Significance of Home Service.
2—Home Service Functions and Obligations.
3—How to Organize a Home Service Department.

Under "The Real Significance of Home Service" it is shown what home service means to the public and the gas industry and what it should mean to the individual gas company.

In part two it is shown what the general scope and purposes of the Home Service Department are. The public relations of the service department are emphasized as well as the departmental.

Under the head of How to Organize Home Service Department there are discussed three different items:

1—Material.
2—Personal.
3—Routine of Operation.

Much detail is given in this part of the report.

Current Market Prices

COALS (By Courtesy of Coal Age)

A. Bituminous.

(Spot prices, F. O. B., mines, net tons).

High Volatile, Eastern	Market	Price
Pool 54-64 (Gas Standard)	New York	$1.40 to $1.65
Pittsburgh screened gas	Pittsburgh	2.30 to 2.50
Pittsburgh gas, mine run	Pittsburgh	2.00 to 2.25
Kanawha lump	Columbus	(*)
Kanawha mine run	Columbus	(*)
West Virginia lump	Cincinnati	2.00 to 2.25
W. Virginia gas mine run	Cincinnati	1.25 to 1.50
Midwest		
Indiana 4th vein lump	Chicago	2.75 to 3.00
Indiana 4th vein mine run	Chicago	2.25 to 2.50
South and Southwest		
Big Seam lump	Birmingham	2.90 to 3.10
Big Seam mine run	Birmingham	1.75 to 2.10
Southeast Kentucky lump	Louisville	2.00 to 2.25
Southeast Kentucky mine run	Louisville	1.25 to 1.75

B. Anthracite.

(Spot prices F. O. B. mines, gross tons),

Market	Freight rates	Independent	Company
Egg New York	$2.34	$8.75 to $9.25	$8.45 to $8.85
Egg Philadelphia	2.39	8.80 to 9.60	8.80 to 8.85
Egg Chicago (net tons)	5.06	7.86 to 8.00	7.83 to 7.90

COKE (By Courtesy of Iron Trade Review).

Connellsville, furnace	$3.00 to $3.25
Wise County, furnace	3.75 to 4.50
Alabama, furnace	5.00 to 5.50
Foundry, Newark, N. J., del.	10.41
Foundry, Chicago, ovens	12.50
Foundry, Boston, delivered	12.00
Foundry, St. Louis	9.00 to 9.50
Foundry, Granite City, Ill.	9.00 to 9.50
Foundry, Alabama	5.50 to 6.00

PETROLEUM (By Courtesy of Oil, Paint & Drug Reporter)

(Prices at wells, per bbl.)

Pennsylvania—Ohio—West Virginia.	
Cabell, West Virginia	1.70
Corning, Ohio	1.90
Lima	2.28
Pennsylvania	3.25 to 3.75
Wooster, Ohio	2.00
Indiana—Illinois.	
Illinois	2.07
Indiana	2.08
Oklahoma—Kansas.	
Healdton	.90
Mid-continent (low gravity)	.90 to 1.05

* No quotation, due to strike.

Gulf Coast.

Gulf Coast, Grade A	$2.00
Gulf Coast, Grade B	1.70

GAS OILS.

Gas Oil, Bayonne, bulk gal.	5¼ to 6c
Gas Oil (32-36) Illinois-Indiana,	4.68 to 4.93
Gas Oil (32-36) Oklahoma, gal.	2⅝ to 2¾c
Gas Oil (32-36) Gulf Coast, gal	4¾ to 5 c

PIPE AND FITTINGS—CAST IRON GAS PIPE.

(By Courtesy Iron Trade Review.)

Four-inch, Chicago	$64.20
Six-inch and over, Chicago	60.20
Four-inch, Birmingham	57.00 to 58.00
Six-inch and over, Birmingham	53.00 to 54.00
Four-inch, New York	70.60 to 71.60
Six-inch and over, New York	65.60 to 66.60
Standard fittings, Birmingham, base	115.00

6 to 24-inch, base; over 24-inch, plus $20; 4-inch, plus $20; 3-inch, plus $20.

BY-PRODUCTS

(By Courtesy of Oil, Paint and Drug

Ammonia aqua, 16 deg. drums lb.	5 to 5¼c
Ammonia aqua, 20 deg. drums lb.	6¼ to 6½c
Ammonia aqua, 26 deg. drums lb.	6½ to 7 c
Ammonia squa, anhydrous cylinder, lb.	30 to 36 c
Ammonium sulphate, bulk F. O. B. Works, per 100 lbs.	$2.60 to $2.65
Potash prussiate, yellow casks, lb.	18½ to 19 c
Potash prussiate, red casks, lb.	38 to 40 c
Soda prussiate, yellow casks,	10½c
Soda sulphocyanide, barrels, lb.	45 to 55 c

COAL TAR BASIC PRODUCTS.

(By Courtesy of Oil, Paint and Drug Reporter)

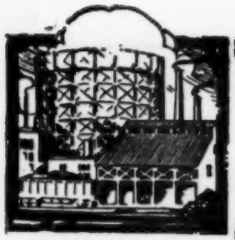
Benzol C. P. tanks, works, gal.	24 to 25c
Benzol, drums, gal.	30c
Benzol, 90% tanks, works, gal.	23c
Benzol, 90% drums, gal.	28c
Napthalene, flake, barrels, lb.	5 to 5½c
Napthalene, dyestuff bags, lb.	4½ to 5 c
Solvent Naphtha, water white works, gal.	24 to 25c
Solvent Naphtha, drums, works, gal.	29 to 30c
Toluene, C. P. tanks, works, gal.	31c
Toluene C. P. drums, works, gal.	36c

Coal

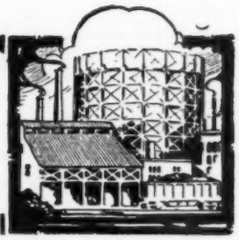
Production of bituminous coal again took a tumble during the week ended June 14, the upturn of the preceding week proving to have been only a post-holiday spurt. Output for the week ended June 14, according to the Geological Survey, was 6,999,000 net tons, a decrease of 374,000 tons from the week before. Nevertheless, there has been a tendency toward a gradual increase in the rate of output since April 12, and the Geological Survey reports that telegraphic returns of car loadings for June 16 and 17 indicate the probable continuance of this slow recovery. Anthracite production also declined slightly, the output for the week ended June 14 being 1,823,000 net tons, compared with 1,846,000 tons during the previous week.

Petroleum

Crude oil production continues on the upward trend, statistics compiled by the American Petroleum Institute showing a gain of 4,400 barrels daily for the week ended June 14, the daily average being 1,988,200 barrels, as compared with 1,983,800 barrels for the preceding week. Daily average production east of the Rocky Mountains was 1,356,750 barrels, as compared with 1,358,150 barrels, a decrease of 1,400 barrels.



NEWS OF THE GAS INDUSTRY



Annual Meeting of Commercial Section Empire State Gas & Electric Association

The annual meeting of the Commercial Section was held at Buffalo on June 19 and 20, with the chairman, Mr. H. A. Doering (Westchester Lighting Company) presiding. The first morning's session, which was held in the auditorium of the Buffalo General Electric Company, was opened with the address of Mr. Sanford J. Magee (New York State Gas & Electric Corporation), the president of the association.

Mr. Magee described the tremendous growth of the gas and electric industry during the past decade and the pre-eminence of New York State in the quality of its public utility operations.

"Our industry's progress," said Mr. Magee, "in the last year, is something of which we may well be proud. This does not, however, entitle us to sit back and admire that record and let it go at that. Our reason for existence is to furnish service to the public—as widespread service, as good service, as economical service, as is humanly possible. It is our duty to continue the march of progress and to keep the record of our industry in public service one of which we may be proud."

Report of Year's Activities

Following Mr. Magee's speech, the chairman presented his report on the year's activities.

This showed another well-defined advance by the section during the current year, particularly in regard to the district meetings. Beginning in 1922 with five meetings and a total attendance of 40, nine meetings, with an attendance of 153, were held in 1923, and during the past season this has grown to ten meetings with a total attendance of 213.

Mr. Doering laid stress upon the efficient work of the district chairman in making the district meetings such an outstanding success and extended to them the section's hearty thanks for their co-operation.

The report of the Committee on Intercompany Co-operation was submitted by its chairman, Mr. T. P. Federer (Cohoes Power & Light Corporation), together with suggested forms of applications for service. This report, which covers the moving of a customer from one locality to another in this state, was adopted by the meeting and referred to the executive committee of the association for further action.

Progress in Gas House Heating

This report, presented by Mr. H. C. Deffenbaugh (Rochester Gas & Electric Corporation) emphasized the other advantages, beside cost, in favor of gas, and predicted that when the public has learned through experience all the benefits of gas fuel, the difference in cost will be largely forgotten.

Much can be done, said Mr. Deffenbaugh, to increase heating efficiency by improved building methods. If sufficient and workmanlike insulation were built into modern houses, the problem of house heating would be rendered much less difficult. In this connection the ideal of the Rochester "model house" might well be followed, and the dwellings designed not only for the maximum comfort and convenience, but also for the efficient use of all gas and electric appliances.

One objection is that the effect on the plant of large amounts of house heating, added to an already fairly uniform sendout, will be to introduce a summer "valley," with consequent idle capacity. If this becomes too pronounced, it can be offset, to some extent, by a special summer gas rate made for the purpose of attracting large volume water heating in hotels, office buildings and apartments when their heating plants are shut down. By such an "excess summer gas rate" a considerable amount of the fixed charges on the additional capacity necessary for winter operation can be absorbed and uniformity in monthly sales can be approximated.

Gas Water Heating

The second day's meeting, held in the auditorium of the Niagara Falls Power Company's plant, was opened by Mr. R. V. Howes (Consolidated Gas Company), who presented a most interesting paper on practical methods of laying out water heating. While there are a few fundamental rules, plain judgment and the common sense born of experience are necessary for estimating the amount of hot water which will be required on any job.

Gas is cheaper than coal, fuel for fuel, on intermittent work, but dearer on continuous heating. In order to compete on this latter gas must show some advantage other than the fuel charges. The important thing is service; gas will give hot water all the time, and nowadays people will pay well for the insurance of service and for the elimination of irresponsible labor and dirt and the annoyance of coal deliveries.

In addition, Mr. Howes gave specific details for a dozen typical installations — office buildings, lofts and hotels. These figures, of which there is unfortunately only one available copy, will be gladly loaned to any member of the association.

Commercial Section to Take Charge of Public Speaking Program

At the close of Mr. Howes' paper Mr. W. R. Huntley (Buffalo General Electric Company) described the work of the New York State Committee on Public Utility Information and emphasized the necessity for the constant cultivation of public friendship. This move-

ment, he said, is not for the executives alone, but requires the continuous participation of the utility company's men all along the line.

In this regard he requested the earnest co-operation of the district chairmen of the Commercial Section in taking charge of the arrangements for the intensive public speaking program of the committee. The proposed plan consists in having the individual chairmen keep their eyes open for speaking dates before the various clubs and public organizations of their districts and to make the necessary arrangements for the meetings and the speakers. Each chairman will be able to call upon the committee's New York office for any material desired in preparing the speech. If he cannot find a speaker in his own territory he can call on the office for one, who, on sufficient notice, will be forthcoming.

It is felt that the local commercial men, through their daily contact with the public and their intimate acquaintance with their own particular territory, can be of the greatest assistance in this important branch of the committee's activities.

At the close of the meeting the nominating committee, composed of Messrs. S. Smith, C. A. Volz and W. A. Morris, nominated Mr. W. J. Reagan (Utica Gas & Electric Company) chairman and Mr. R. V. Howes (Consolidated Gas Company) vice-chairman for the coming year, and they were elected by unanimous vote.

The retiring chairman, Mr. H. A. Doering, was given a rising vote of thanks for his splendid three years work with the section. The Buffalo General Electric and the Niagara Falls Power companies were given a hearty vote for their very kind co-operation and hospitality during the meeting.

The meeting then adjourned to the terrace of the power house, where a buffet lunch was served.

To Weld Gas Pipe

From the gas fields in the vicinity of Shreveport, Louisiana, to the city of Beaumont, Texas, it is 210 miles. From the construction camp of the Magnolia Gas Company comes word that a continuous steel tube is to be laid; no couplings or screw thread, all of the connections to be oxy-acetylene welded. It is claimed for this method that it minimizes chances of leaks, and that the extra cost for construction will be more than equalized in the maintenance.

Eastern States Appliance Co. to Represent Radiant Heat Corp.

The Radiant Heat Corporation of America, now under the J. G. White Management Corporation, announce the appointment of the Eastern States Appliance Company of 2405 Chestnut street, Philadelphia, to represent them in the following territory: Southern New Jersey, Eastern Pennsylvania, Delaware, Maryland, District of Columbia and Virginia.

C. W. Wardell

The Eastern States Appliance Company was recently organized by Mr. C. W. Wardell, who lately resigned from the Welsbach Company.

Several new low-priced radiant heaters of attractive design, made under the Kennedy patents, are about ready to be offered to the trade.

Women's Section of New York Committee on P. U. I.

Sixty-eight women representatives of gas and electric companies of NewYork State met at the Hotel Astor on Wednesday, June 11, and organized the Women's Section of the New York State Committee on Public Utility Information. Miss Mary E. Dillon, general manager of the Brooklyn Borough Gas Company, was elected chairman, and Miss Helen Smith, industrial engineer of the Rochester Gas & Electric Corporation, was elected vice-chairman.

It was the sense of the meeting that women's clubs and associations were taking so large a part in public affairs and devoting so much study to civic problems that they would, in general, welcome correct and dispassionate information about public utilities. Resolutions were adopted providing for the districting of the state and the appointment of a sub-committee for each district to bring about contact with organizations of women for obtaining and filling speaking engagements and for the distribution of educational material about public utilities.

M. S. Sloan, president of the Brooklyn Edison Company and chairman of the Committee on Public Utility Information, set forth the purpose of the meeting in welcoming the women.

"Because the influence of women in the home and in public affairs," he said, "is so powerful today, and will continue to increase in power, we in the public utility industry need their understanding. We need their friendship. If we win their understanding of our problems and of our accomplishments, we shall win their friendship. And once we have won it, because we deserve it on our performance, I believe our policies and service are such that we shall be able to hold it. Holding it, we shall find all the matters which make up what we call our problem of public relations becoming vastly less troublesome — in fact, we shall find them vanishing as troubles."

"Our thought in setting up this Women's Section of the Committee on Public Utility Information," said Miss Dillon, "is that the wo-

men in the utility industry have a vast potential value to the industry and to the public. Some of us feel that the industry in general has been slow to realize that potentiality, particularly in its application to the field of public relations. We believe women can be told about our industry by women in the industry, so that they will understand about gas and electric service and the elements which go into furnishing it as well as they now understand the convenience and comforts arising from use of gas and electricity. We know the women exist within the industry to carry on this work and we have now set up the machinery to utilize their value. We feel certain this will be a real service to the industry and to the public."

William R. Bell Selected for El Paso Position

While congratulating him upon his promotion, local friends of William R. Bell, sales manager of the Haverhill Gas Light Co., regret his transfer to El Paso, Texas, where he is soon to assume the sales management of the large electric company. This is under the Stone & Webster management, as is the Haverhill Gas Light Co.

Mr. Bell has a host of local friends who will miss his association. He has been very prominent in a civic way, being active in the affairs of the Chamber of Commerce, the Y. M. C. A., Haverhill Boys Club and the Kiwanis Club. He was one of the organizers of the latter club.

Citizens Gas Light Co. Hold Picnic

The annual outing of the employees of the Citizens Gas Light Company was held at the Webster House, Green Harbor, and a merry day the party had. One of the first events on arriving at Green Harbor was the time-honored baseball game between the married and single men, which was won by the youngsters, 14 to 6.

Then the married women of the party evened things up by defeating the single girls, 3 to 1. Other sports included a 100-yard dash, which was hotly contested, and was won by Miss Sandison, with Mrs. P. Glynn a close second.

John Morton and Stanley Carlson, stock clerks, showed their sprinting ability and brought home the bacon in the three-legged race. Mrs. Quinn, wife of the vice-president, proved her familiarity with clothespins by defeating the field in that race. Gretta Muir and Helen O'Brien took all of the honors in the high jump, but unfortunately Miss O'Brien lost her Cinderella-like slipper, which report says found a resting place in a well-known young man's pocket.

Then there was a pipe race, which was won by Stanley Carlson with John Morton second. The athletic program closed with a tug of war, won by the married men.

An adjournment was then made to the dining room, where everybody engaged in the pleasing contest of seeing how much lobster and chicken they could dispose of in a given time. "Red" Shaughnessey issued a challenge for fun, money or marbles, for a lobster-eating contest. After sizing up "Red's" exhibition during dinner, there were none who cared to take up the challenge.

Following the dinner, Vice-President Quinn gave a brief talk and awarded the prizes. The committee in charge of the outing were George Ellard, Ted Johnson and Pete Bruyn.

Illinois Power & Light Company Changes Managerial Personnel

Chicago, Ill.—More changes in the managerial personnel of Illinois properties of the Illinois Power & Light Corporation were announced here today by William A. Baehr, vice-president and general manager of the company. They were effective June 15.

Emil A. Roehry, for the last six years manager of the Cairo Railway & Light Company, Cairo, Ill., has been promoted to division manager of the company's properties at Champaign, Ill., to succeed Frank W. Bedard, promoted to a wider field of endeavor created by the general offices of the company for the promotion of gas sales for industrial purposes and house heating.

The position of manager of the Cairo property will be filled by Harry J. Vance, Chicago. Mr. Vance has been purchasing agent for the Illinois Traction System, now a subsidiary of the Illinois Power & Light Corporation, since 1912.

Large Registration in M. I. T. Gas Course

The third annual course for the application of gas for industrial heating purposes opened Monday, June 16, with a registration of 55 men.

The course was opened with a brief address by Francis E. Drake, manager of the gas department, Lynn Gas & Electric Co., Lynn, Mass., who is chairman of the committee in charge.

There are several men numbered among those present who have come from sections outside of the New England States.

The industrial appliance laboratory has been rearranged and several pieces of new apparatus provided through the generosity of the appliance manufacturers.

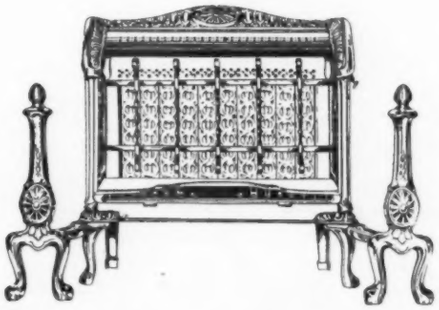
Prof. Gordon B. Wilkes, of the Massachusetts Institute staff, is in charge. He is ably assisted by Mr. O. K. Bates and Mr. George Thomson.

The course will terminate with a dinner and business meeting of the newly formed Industrial Gas Association at 12:30 on June 27, at the Riverbank Hotel, Cambridge, Mass.

Gas Comes to Aid of Electricity

Bridgeton.—The Bridgeton Gas Light Company for more than an hour and a half recently assumed the duty of lighting the greater part of the community. The additional tax upon the plant came at a time when the company has been carrying in addition to the domestic load, which is heavy, a large volume of heating business, which happens owing to the cold, damp weather so unusual for June. When the electric current went off for the long period and the stores and homes having a gas service went on the line, the result was a pull which was a real strain, but the company management met the demand and made it possible for many people to have a lighting service. Not anticipating any such load and carrying it for the length of time it was, really bespeaks much for the company's ability to meet emergencies.

These Features of Welsbach Heaters Mean Big Sales for You



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Equipped with ten glowers and self lighter. Can also be furnished without andirons.

Self Lighter

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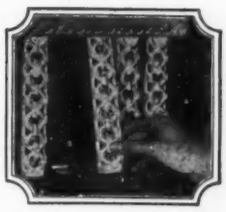
Welsbach Gas Heaters have numerous points of superiority which are distinctive to Welsbach design—features which are so valuable that they are producing sales wherever Welsbach Heaters are shown.

The questions people used to ask about gas heaters—"Are they economical?"—"Are they odorless?" are answered once and for all in the efficient performance of these super heaters.

In the design of Welsbach Heaters you will find the very things which discriminating buyers insist upon having in the heaters they buy. Maximum heat production, resulting from an exceptionally efficient burner. Full radiation of heat—produced by metal reflector. Absolute convenience found in eliminating the need for matches and using a pyrophoric self lighter instead. Proper combustion insured by screening the air used, thus keeping all dust and dirt from the burner caps.

The Welsbach line offers a wide choice of attractive models for both portable or fireplace use, in styles and finishes to meet every taste. It is the most practical means of extending the use of gas as an auxiliary heating service among your consumers. Make use of it to increase your sales.



Glowers Kept from Breaking

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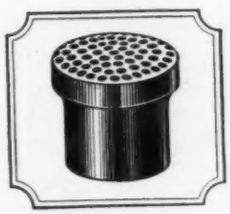

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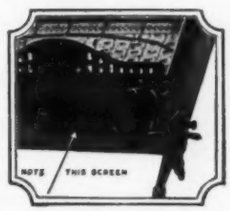

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WELSBACH COMPANY

Gloucester New Jersey

Member American Gas Association

Welsbach GAS HEATERS

Advertisements are to be Acted upon.

Southern Counties Gas Co. Employees Hold Annual Christmas Party

Los Angeles, Cal.—Employees of the Southern Counties Gas Co. of California, located in various cities on the company's system, held their annual Christmas parties during the middle part of December. The parties were held at San Pedro by the San Pedro Efficiency Club, at Long Beach by Natural Gas Club and at Santa Ana by the Orange County organization.

The Efficiency clubs of the Southern Counties Gas Co. are local organizations of company employees, including both men and women. They have been in existence for several years and hold regular monthly meetings. During the Christmas season special programs are arranged, each entertainment being replete with music and dancing and generally followed by a supper.

The San Pedro Efficiency Club held its annual Christmas High Jinks at the Robal Inn, San Pedro, on the night of December 14, at which approximately 100 Southern Counties employees of San Pedro participated. A Christmas masquerade party was the feature and employees appeared in striking costumes. Four prizes were awarded as follows: Best dressed lady, best dressed man, most comical lady and most comical man.

O. R. C. Grow, district superintendent of the San Pedro division of the Southern Counties Gas Co., appeared in the costume of a darkey and it is said that none of his employees recognized him in his unusual makeup. George W. Smith of Long Beach office was garbed as a Follies girl and had all of the "Shieks" of the San Pedro gas office worried. Other unique costumes were worn effectively.

The Orange County Efficiency Club held its annual Christmas party on the night of December 19 in the spacious Efficiency Club rooms, located on the second floor of the Santa Ana gas office. In addition to the special High Jinks and program, a banquet was served. J. C. Hayden, district superintendent for that territory of the company, and George Miller, president of the organization, led in the merriment.

The Natural Gas Club of the Long Beach district held its Christmas party on the night of Thursday, December 20, in the basement of the Long Beach Chamber of Commerce. More than 150 employees of the company attended. F. H. Bivens, district superintendent, and Mrs. Bivens, acted as hosts. G. W. Smith, chief clerk at the Long Beach gas office, is president of the club.

The Christmas frolic of the Long Beach unit was by far the finest meeting yet held since the club was organized several years ago. While known as a Christmas gathering, it was virtually a dinner dance. Food was prepared by employees of the company and all decorating was done by the same individuals. Special musical numbers featured the early part of the program and dancing continued until midnight. Several guests from the Los Angeles office of the company were present.

More than 80 of the Los Angeles officials and employees of the company held a Christmas party in the general office, located at 724 S. Spring street, on the afternoon of December 24. A large Christmas tree was installed in the office of the company secretary, W. S. McFarland, where a fitting Christmas program was held.

F. R. Bain, president and general manager of the Southern Counties organization, received a handsome ring from the general office employees. J. C. Page, acting the part of Santa Claus, presented President Bain with the ring and made the presentation speech. Mr. Bain thanked his employees for the gift and for their loyalty to the company.

A feature of the Christmas party was the fact that every employee brought an individual gift, which was turned over to St. Nicholas Page. Numbers were then given to all employees and as the numbers were called each one present was the recipient of a gift. Following this program, which lasted for more than an hour, refreshments were served.

Among the company officials and heads of departments were the following:

Ferdinand R. Bain, president and general manager; W. S. McFarland, secretary; F. S. Wade, superintendent of operation; M. R. Thompson, engineer; A. F. Bridge, rate engineer; J. C. Page, purchasing agent; F. E. Kester, chief accountant; N. R. McKee, sales engineer; G. E. Stellar, engineering department; J. R. McLaughlin, Orifice Meter department; James Hone, meter department; Carrie Angevine, addressograph department; Clyde H. Potter, advertising depatrment; Mrs. Plummer Montgomery, automobile department; R. Ranyard, Joe Gill and others.

To Make Extensive Improvements to Plant

The Torrington (Conn.) Electric Light Co. is preparing to make extensive improvements to its gas plant and has awarded the contract for the work to the U. G. I. Contracting Co., of Philadelpiha.

The contract includes the furnishing and installing of cone top carburetted water gas apparatus, blowing plant, overhead steel plant, etc. The water gas apparatus will be equipped with the U. G. I. Model "B" Automatic Control.

Contract for the new generator building was also awarded to the U. G. I. Contracting Co.

Planning Electrolytic Survey

Findlay, Ohio—The Logan Natural Gas Co. is planning an electrolytic survey of the condition of gas mains in Findlay, according to the announcement made by B. B. Legg, of Columbus, representative of the Public Utilities Commission. This survey would disclose leaks caused in the mains by electrolysis. Mr. Legg is in charge of a similar survey in Elyria and it is not probable that work will be started here until the tests have been completed in that city.

The gas company hopes to enlist the aid of the city and the traction companies in making the survey of conditions here. The gas users of Findlay will probably be benefited as the survey would disclose any leaks. These places in the mains will be repaired, giving this city a higher gas pressure.

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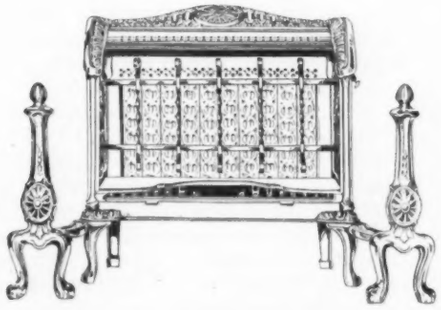

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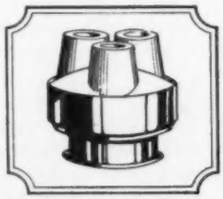

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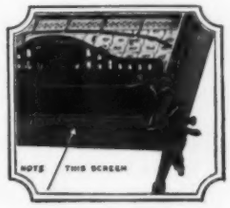

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Southern Gas Association to Conduct a Short Term Meter Lecture Course

The operating gas companies of the South will welcome the good news that the Southern Gas Association, co-operating with the North Carolina State College, will conduct a short term gas meter lecture course at the State College in Raleigh, North Carolina, during the week of July 7 to July 11, inclusive.

Prominent men in the gas industry will deliver short addresses and talks. An expert has been engaged to take full charge of the course of instruction, and a very ambitious, hard working, tentative program has been arranged; this course is modeled after, and is similar to, the course conducted at the Iowa State College at Ames, Iowa.

A nominal fee for board, room and registration will be charged; this fee will be so small that anyone desiring to attend will find it no hardship to do so.

Parties interested are invited to communicate with Professor L. L. Vaughn, North Carolina State College, Raleigh, N. C., or B. F. Pickard, chairman Gas Meter Lecture Course, North Carolina Public Service Co., Greensboro, N. C.

Combustion Utilities Corporation Acquires Surface Combustion Organization

The Combustion Utilities Corporation, New York, announces that through Henry L. Doherty & Co., their parent organization, they have acquired the Surface Combustion Company.

It has long been the aim of the Combustion Utilities Corporation to expand its personnel and increase its activities in the industrial gas field. On January 1, 1923, the Combustion Utilities Corporation absorbed the Improved Appliance Company, the aim of the consolidation being at that time to bring into a single organization the forces of two successful companies.

In taking over the Surface Combustion Company it secures the going business of a well established company that has long been an acknowledged leader in its field. The Surface Combustion patents on control apparatus, burner designs and automatic proportioning devices are admitted by engineers to be several steps ahead of any previous combustion apparatus, while the principle of "surface combustion" is known to have been responsible for much of the economy recently effected in the correct utilization of industrial gas.

Through its affiliations with British Furnaces, Ltd., in England, Benno Shilde in Germany and Austria and other Teutonic countries and Compagnie Generale de Construction de Fours in France, all of which organizations manufacture and sell Surface Combustion industrial furnaces and appliances in their respective countries, the Surface Combustion Company has been enabled to keep in touch with the best of Continental engineering development in the science of fuel utilization, control and equipment design.

At present it is planned that both of the companies consolidated shall maintain their own identities—the Surface Combustion Company will continue to manufacture its own specialties.

While it is the plan for the present, at least, that both companies shall maintain their individuality, many of the branch offices of the Surface Combustion Company will be consolidated with offices in various cities already established by the Combustion Utilities Corporation.

The Combustion Utilities Corporation, it is announced, will not only continue its line of large recuperative furnaces for the steel, ceramic and malleable iron industries, but will shortly announce plans for a rather intensive development of this department. The large furnace division will continue under the direction of F. W. Manker, sales manager, who has been in charge of the department since July 1, 1923.

The Toledo factory of the Combustion Utilities Corporation, under the supervision of Paul Nutting, has been perfecting the general line of burners and small combustion apparatus acquired through the consolidation with the Improved Appliance Company in 1923.

C. M. Phillips, sales manager of the Combustion Utilities Corporation, Toledo Division, continues in that capacity. Mr. Phillips will cooperate with W. M. Hepburn, sales manager and vice-president of the Surface Combustion Company, in consolidating the various branch offices.

Henry O. Loebell, general manager of the Combustion Utilities Corporation, becomes president of the Surface Combustion Company through the resignation of Robert Lesley. Mr. Lesley will remain as a director in the new consolidation.

W. M. Hepburn continues as vice-president in charge of sales.

E. E. Basquin, vice-president and general manager of the Surface Combustion Company, will continue in that capacity.

It is the intention of the present management to make but few changes in personnel—all engineering, planning, designing, manufacturing and research divisions will be continued for the present.

Dividend Declared

Chicago, Ill., March 6—Directors of the Illinois Power and Light Corporation today declared the regular dividends for the quarter ending April 1, 1924, of 1¾ per cent upon the 7 per cent cumulative preferred stock and 1½ per cent on the 6 per cent cumulative participating preferred stock.

Both are payable April 1, 1924, to stockholders of record at the close of business on March 15, 1924.

Directors of the North American Light and Power Company yesterday declared the regular quarterly dividend for the period ending April 1, 1924, of 1¾ per cent upon the 7 per cent cumulative preferred stock. The dividend is payable April 1, 1924, to stockholders of record at the close of business on March 20, 1924.

Franchise for Gas Co. at Freemansburg

Freemansburg, Pa.—Formal application for a franchise granting the Allentown - Bethlehem Gas Company the right to lay a pipe line under streets at Freemansburg was received from the gas company recently by the Freemansburg Borough Council. The letter requesting the grant was received following the suggestion of the town fathers offered to P. Cassara, Bethlehem real estate dealer and extensive property owner at Freemansburg. Cassara appeared personally before the Borough Council, requesting them to grant the company the right to lay a gas line there, to connect with his property holdings later.

$38,500,000 EARNED BY PHILADELPHIA CO., PITTSBURGH

Holding Company for Equitable Gas Co., Pittsburgh & W. Va. Gas Co., Duquesne Light Co. and Other Subsidiary Companies

Gross earnings of the holdings of the Philadelphia Company, Pittsburgh, Pa., during 1923, exclusive of the Pittsburgh Railways Company, totaled $38,500,000, according to an announcement made by the company. The railway operations which were carried on in receivership, netted more than $22,000,000.

The report shows the development and extension of the company during 1923, the first year as a holding company. The subsidiaries of the company recorded a great advancement and this was only possible through the farsightedness of the main company in financing its subsidiaries. During the year subsidiary companies received financing to the amount of $14,000,000 to enable them to operate continually and to improve their service steadily.

During the last few years there has been financed by the Philadelphia company $113,700,000 for refunding and improvement purposes. Five companies were closed out during the year, including People's Natural Gas & Pipage Co., Southside Gas Co., Cosmos Oil Co. and the Brighton Bridge Co.

Earnings for the first six months period of 1923 were great enough that a raise of 2 per cent annually in dividends was declared for the final six months term.

A reduction in overhead, brought about by the closing out of numerous subsidiary companies, enables the company to operate with a single executive staff. On the basis of last year's profitable business the company expects a brilliant return for 1924, and with the Pittsburgh Railways out of the hands of the receivers, their gross earnings should greatly exceed those of 1923, officials believe.

Average Family Uses Less Than 100 Feet of Gas a Day

Less than 100 cubic feet of manufactured gas a day is used to do the cooking and heating for an average family of five persons, according to a recent analysis of gas consumption.

Figures covering the use of gas for various individual domestic needs are as follows:

Bread baking: Twenty-five cubic feet of gas will bake from one to eight loaves at one time, according to the size of the oven.

Roast chicken: Thirty-five cubic feet of gas will roast one three-pound chicken.

Bean soup: Six cubic feet of gas will cook one quart.

Coffee: One and one-third cubic feet of gas will prepare one quart.

Custard pie: Ten cubic feet of gas will bake one or more pies, according to the size of the oven.

Hot water: Twenty cubic feet of gas will heat twenty gallons of cold water to a temperature of 105 degrees.

Washing: Thirty-five cubic feet of gas will heat to the boiling point enough water for an average family wash.

Tampa Gas Co. Sells Stock to Customers

Tampa, Fla.—Completing the sale of its stock issue of half a million dollars to the people of Tampa, the Tampa Gas Company is preparing to enter upon a new era of expansion and growth. The sale of this amount of stock to Tampa is declared to be the largest sale of public utility securities ever made to a local public in the South.

"It amounts, to a large extent, to a public ownership of our company," Roscoe Nettles, manager of the Tampa Gas Company, said. "The stock is distributed over a large number of stockholders, all classes of Tampa citizens being represented. It is a safe and profitable investment."

The stock pays 8 per cent dividends, and the entire issue was disposed of by the company directly, within a period of two years. Actually, the issue was oversubscribed, Mr. Nettles declared, since applications have been received for at least $25,000 worth in excess of the $500,000.

The increased use of gas in Tampa is shown by the figures of the company, indicating that the output of the company has increased five times since 1911, while Tampa's population has doubled.

Gas and the Smoke Nuisance

Fort Wayne, Ind.—The new gas plant of the Northern Indiana Gas and Electric Company, now under construction here, is being welcomed by Fort Wayne as no other industrial establishment has ever been welcomed, for the city looks to the new gas plant, with its output of 66,000 tons of coke a year, as a big factor in the ultimate elimination of the smoke evils from the city.

A survey just made by S. E. Mulholland, vice-president and general manager, shows that smoke costs residents of Fort Wayne $2,500,000 annually, and the use of coke, through the supply made available by the gas plant, is expected to play a big part in abating that condition.

Mr. Mulholland cites figures prepared by experts to show that smokeless cities are possible within twenty years, but says that Fort Wayne can beat that figure.

Chief among the organizations to express appreciation for the potential alleviation of the smoke evil is the Chamber of Commerce, the manager of which has issued the following statement:

"It is claimed that more persons are devitalized, disabled and poisoned by impurities contained in smoke polluted air than by the noxious ingredients of certain foods and water. Density of atmospheric smoke increases pneumonia and causes other illnesses, it is said. As smoke diminishes the sunlight and increases the humidity during both cold and warm weather, it exerts an important influence on the health of persons who live in a smoky city. The Mellon Institute has found that 75 per cent of the coal burned in Pittsburgh escapes into the air. Considered as sulphuric acid, this amount would equal 500,000 tons and is enough to destroy 500,000 tons of limestone."

The life of galvanized sheet steel and iron, copper and other metals besides the principal articles of house furniture was found by the institute to be greatly decreased on account of smoke and gaseous sulphur.

Gas Company Extends Mains

Ensley, Ala.—The Birmingham Electric Company has announced that it will start construction some time during May on the extension of the company's gas mains into what is known as the Central Park section of Ensley, spending about $25,000 for the purpose. A preliminary survey has already been made. The announcement emanates from the office of J. S. Pevear, operating head of the Birmingham company.

Gas Company Prepares for Extension of Plant

Fort Wayne, Ind.—Anticipating further development of their new plant project, now under construction, the Northern Indiana Gas and Electric Company has obtained four more 300-foot lots and has taken options on seven more of the same size adjacent to the 20-acre plot on which the new plant is to be erected.

"The purchase of these lots was made and the options were taken with a view to future expansion of our plants at Fort Wayne," Mr. Mulholland said. "Although the plants now building will take care of the city's needs for some years, the growth of Fort Wayne is sure to increase the future demands for gas and coke beyond even the huge output of our new plants."

Issues Annual Report

In the annual report to the stockholders of Standard Gas and Electric Company, President H. M. Byllesby states that the progress of the company during 1923 was very satisfactory. The balance available for dividends, he points out, was the largest in the history of the company. Dividends at the rate of 8 per cent per annum were paid on the preferred stock and the payments of dividends on the common stock at the rate of $2.50 per share per annum was inaugurated for the quarter beginning April 1, 1923. Common dividends were increased to the rate of $3 per share per annum for the quarter beginning January 1, 1924.

Net revenue of the company for 1923 was $5,103,425, compared with $4,652,126 in 1922. The company includes in its earnings only amounts actually received or in process of collection. Gross earnings of the operated public utility companies for 1923 were $46,165,533 and net earnings were $18,711,033. These figures represent an increase in gross earnings of 9.72 per cent and an increase in net earnings of 16.4 per cent over 1922.

The construction budgets of the operated utility properties for 1924 are estimated at $32,672,000, representing additions and extensions required to serve additional public demands. The construction will be carried out under the direction of the Byllesby Engineering and Management Corporation, which corporation is owned by the Standard Gas and Electric Company. New construction in 1923 required an expenditure of $31,471,106.

The customer ownership policy of the operated companies was continued with success, these companies now having well over 50,000 customer or local shareholders. In 1923 there were 25,711 separate sales of securities at the operated properties, representing an aggregate par value of securities of $13,099,500. The total number of stockholders of Standard Gas and Electric Company is approximately 12,700, representing an increase of over 2,000 during the year.

During 1923 the number of communities served by the operated utility companies increased from 665 to 841, and their combined estimated population from 2,375,000 to 2,770,000. The total number of customers served directly (not including the customers of other companies and municipalities supplied on a wholesale basis), increased from 570,716 to 686,568. Installed steam and hydro-electric horsepower increased from 418,472 to 630,847, and the gas manufacturing capacity from 28,725,000 cubic feet per day to 45,114,200 cubic feet. These companies now own and operate over 12,700 miles of electric transmission and distributing lines.

New Officers of Central Counties Gas Company

Visalia, Cal.—At the annual meeting of the directors of the Central Counties Gas Company, held in Visalia, F. Wood Hunter, vice-president and general manager since 1919, was chosen president and general manager of the company. John E. Jardine of Los Angeles, former president, was elected chairman of the board of directors; M. E. Power, of Visalia, vice-president; R. G. Thomas, secretary; and W. E. Rippey, treasurer and assistant secretary.

Mr. Hunter came to Visalia six years ago to operate the old Central California Gas Company for the receiver and later became agent for the stockholders, gradually building up the plant until it was revived from financial discredit and a physical condition which made it almost mechanically inoperative to one of the finest systems in the state of its size.

At the time the plant was taken over by the stockholders and Mr. Hunter sent here to operate it conditions were such that had warranted the belief that the company would cease to function before long. It was a hard uphill fight which was thereafter waged and in which Mr. Hunter's engineering and managerial ability counted for so much. Today the Central Counties Gas Company is recognized as one of the best paying concerns in California in the public utility line with the finest of service and with plans for the future which will make it even better.

New Gas Rate for Manchester Gas Company

Manchester, N. H.—The first gas bills at reduction rates were sent out recently by the Manchester Gas Company. The company officials announced a reduction of 10 cents per thousand cubic foot about a month ago, to take effect on bills rendered April 1. The net cost is now $1.30 per thousand cubic feet.

Walter M. Africa, treasurer of the gas company, said recently that the reduction in gas rates would decrease the yearly revenue by about $27,000, which makes an average of more than $2 saving every year for the 16,000 gas users.

At the new rates the net costs for the first 10,000 cubic feet is $1.30 per thousand cubic feet. For the next 20,000 cubic feet the net cost is $1.20 and for the next 20,000 cubic feet the net cost is $1.10. Over 50,000 cubic feet the net cost is $1.

Another Reason Why It's Easy to Sell Lorain-equipped Gas Ranges

On this page are illustrated a few of Hundreds of New Buildings furnished with Lorain-equipped Gas Ranges.

One easy turn of the Lorain Red Wheel gives the housewife a choice of 44 different oven heats for any kind of oven baking or cooking.

1.—McKinley High School, Canton, Ohio. 2.—Lorain High School, Lorain, Ohio. 3.—Chase Apartments, St. Louis, Mo. 4.—Apartment House, 1426 Elmdale Avenue, Chicago. 5.—Woodlawn High School, Birmingham, Alabama. 6.—Apartment House, 2651 Euclid Blvd., Cleveland Heights. 7.—Apartment Building, 580 Park Ave., New York City. 8.—Homes in Baltimore, Md. 9.—Residence of Mr. Nathan Raidman, W. Philadelphia, Pa. 10.—Apartment House, 18th Street, Philadelphia. 11.—Biltmore Apartments, Euclid Hts., Cleveland.

For your own benefit we suggest that you read the other side of this page and then write for information regarding the most wonderful cooking appliance ever designed — a Gas Range equipped with the Lorain Oven Heat Regulator.

Selling *Better* Gas Ranges to Architects, Builders and Owners

DURING the year 1924 hundreds of thousands of new buildings will be erected to house the ever increasing population of the United States. A great majority of these new homes will use gas for cooking. Here, then, is a market worthy of the greatest effort on the part of every retailer that sells gas ranges.

It is natural for people to neglect those things which although they *are* important, nevertheless are not so considered. This is true of the attitude of Architects and Builders toward the installation of cooking appliances. They fail to realize that the small additional cost of the most modern and efficient cooking appliance, a Gas range equipped with the Lorain Oven Heat Regulator, is returned a thousand-fold by the increased happiness and comfort of the housewife, who, after all, is the deciding factor in the selection and retention of a place for the family to live.

Realizing this fact, American Stove Company will institute, during 1924, the biggest advertising campaign ever planned by a stove manufacturer to reach every branch of the building industry — the Architect, the Builder, the Real Estate Agent, the Contractor and the Man who superintends the building and equipping of his own home.

While this campaign of itself will prove of tremendous benefit to those that sell Lorain-equipped Gas Ranges, it is, of course, overshadowed by the big, national advertising campaign of American Stove Company which month in and month out reaches *every* worth-while buyer of household equipment in America.

If you are looking toward the future, and the bigger profits that can be earned by selling a nationally advertised article of the highest merit, we suggest that you investigate immediately the customer-winning qualities of Lorain-equipped Gas Ranges.

These famous Gas Stoves are equipped with the Lorain Oven Heat Regulator:

QUICK MEAL - DIRECT ACTION - NEW PROCESS
DANGLER - - RELIABLE - CLARK JEWEL

AMERICAN STOVE COMPANY
ST. LOUIS, MO.

LORAIN
OVEN HEAT REGULATOR

A and B Types
All capacities.

The
Superior
Meter

THE newest feature of Superior Meters.

In accordance with our policy of being continually on the alert for anything that will improve our gas meter and enable it to render even better service to the industry, we have equipped our meter with a bronze drop-forged side pipe.

This feature is of great importance. It is not only especially strong, enabling it to stand up under all strains due to connections and location of the meter, but it eliminates all sand holes and consequently any danger of leaks from that source.

Yours for better service!

SUPERIOR METER CO.

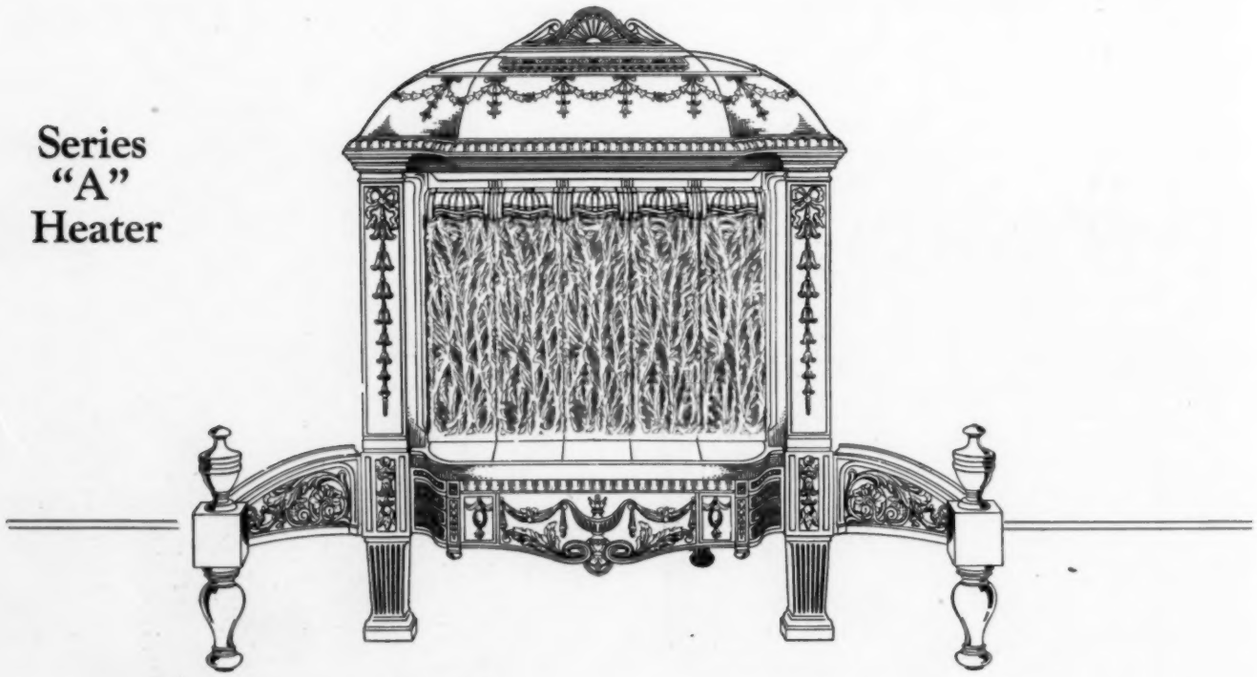
Bush Terminal Bldg. No. 20

BROOKLYN, N. Y.

C. B. BABCOCK CO., Pacific Coast Representatives

768 Mission St., San Francisco, Cal.

Series
"A"
Heater



"The Tiffany of Heaters"

Made in Three Finishes

--Statuary Bronze--
--Antique Brass--
--French Gray--

Distributors

PACIFIC COAST STATES: The T. G. Arrowsmith Co., 135 New Montgomery St., San Francisco, Cal.

MIDDLE WESTERN STATES: R. W. Hoey, 1318 Main St., Kansas City, Mo.

SOUTHERN STATES: S. C. Bratton, Southern Industrial Engineering Co., Birmingham, Ala.

Radiant Heat Corp

126 Eleventh Avenue

Greater Than Ever Before

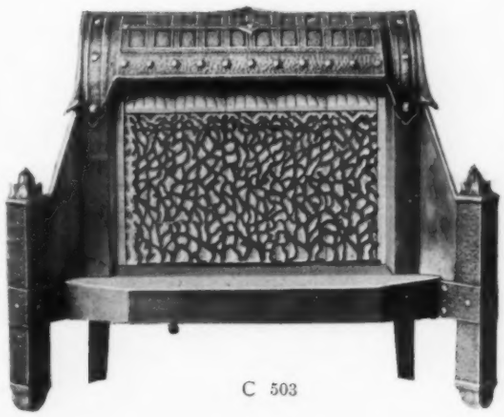
THIS winter the demand for the Kennedy Radiant Heater has been greater than ever before. The Kennedy sells itself and by its perfect performance stays sold.

The "heater of perfect service and adaptability" proves by its perfect performance that it is efficient. It makes no difference what the pressure of the gas is, or whether it is natural or artificial. The Kennedy burner is unique in its field. It insures perfect combustion and the elimination of the dangerous "back-fire."

The Kennedy Radiant Heater will be a money saver for your customers, because of its low gas consumption. They will be satisfied customers.

See the Kennedy in action. We want you to be comsumption. They will be satisfied customers. Order a demonstration heater today.

B511



C 503

poration of America

New York City

The Milwaukee Gas Specialty Company will shortly announce the availability of its swing type gas range lighter especially designed for use on cookers, hotplates and the like.

The addition of this design will in no way affect the status or supply of the well known "just-press-the-button" four flash RUTZ.

Milwaukee Gas Specialty Co.

Milwaukee, Wis., U. S. A.

When better meters
can be made
Superior
will make them.
We have made real
mechanical improvements
and not theoretical ones.

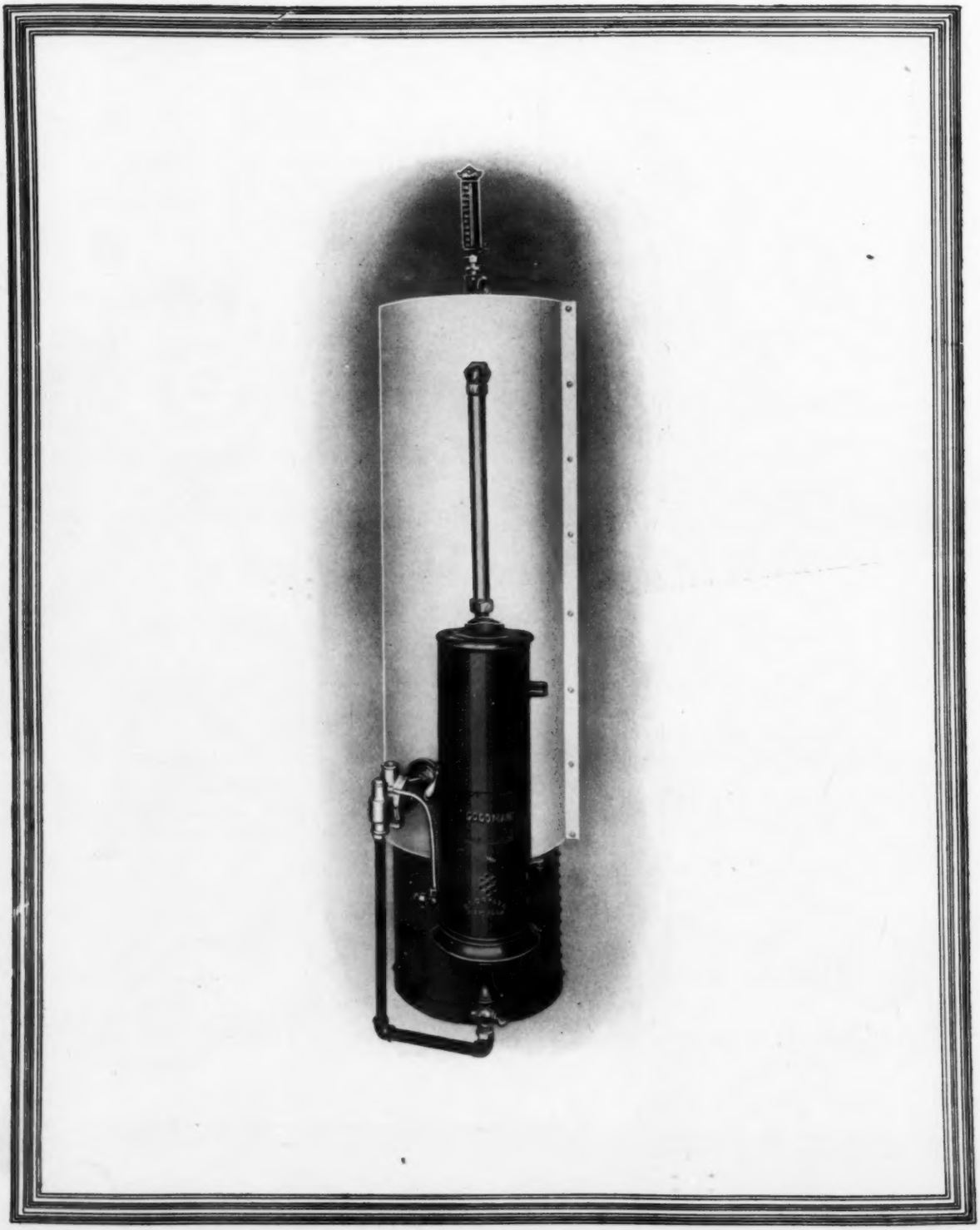
The
Superior
Meter

A and B Types
All capacities.

SUPERIOR METER CO.
Bush Terminal Bldg. No. 20
BROOKLYN, N. Y.
C. B. BABCOCK CO., Pacific Coast Representatives
768 Mission St., San Francisco, Cal.

Superior—All That the Name Implies

We've



Said Nothing About Price—As Yet

IT'S not because we're afraid of it. On the contrary, we are proud of it. Proud that we are able to offer the gas industry such a high grade heater to sell at such a low price.

But what we have been interested in especially is impressing on the gas industry the quality of our heater, and the straightforward, honest reputation of the man behind it.

Gas companies that have had dealings with Mr. Patrick Goodman, and the Safety Gas Main Stopper Company, need no introduction to him. We feel that pretty nearly every gas company in the United States is acquainted with this company.

All we wish to say is that the same honesty and integrity behind the Goodman Automatic Gas Water Heater is behind the exceptional guarantee offered with every heater—an UNCONDITIONAL GUARANTEE OF ONE YEAR.

GOODMAN AUTOMATIC WATER HEATER CO., Inc.

523 Atlantic Avenue, Brooklyn, N. Y.

About the Price

If you're curious about the price, just mail us a card, marked PRICE? with your address. Full details will be mailed immediately. They'll surprise you.

GOODMAN
Automatic Gas Water Heater

From the Atlantic to the Pacific, from Canada to the Gulf of Mexico, gas companies believe in Our

ABILITY TO SERVE

This list of holders contracted for and to be built during 1923 demonstrates their faith in our claim

LIST OF HOLDERS FOR 1923

Philadelphia, Pa.	1	1,500,000 cu. ft.	Holder
Duluth, Minn.	1	1,000,000 " "	"
Port Arthur, Texas	2	1,000,000 " "	"
Staten Island, N. Y.	1	1,000,000 " "	"
Charlotte, N. C.	1	500,000 " "	"
Denver, Colo.	1	500,000 " "	"
San Rafael, Cal.	1	500,000 " "	"
Zilwaukee, Mich.	1	500,000 " "	"
Geneva, N. Y.	1	500,000 " "	"
Herkimer, N. Y.	1	500,000 " "	"
Milwaukee, Wis.	1	300,000 " "	"
Jackson, Miss.	1	200,000 " "	"
Putnam, Conn.	1	150,000 " "	"
Mt. Pleasant, Mich.	1	100,000 " "	"
Stroudsburg, Pa.	1	100,000 " "	"
Zilwaukee, Mich.	1	100,000 " "	"
Matoon, Ill.	1	100,000 " "	"
Oswego, N. Y.	1	100,000 " "	"
Frederick, Md.	1	100,000 " "	"
Rawlings, Wyo.	1	100,000 " "	"
Watsonville, Cal.	1	50,000 " "	"
Shelbyville, Ind.	1	50,000 " "	"
Mt. Pleasant, Iowa	1	50,000 " "	"
Idaho Falls, Idaho	1	50,000 " "	"

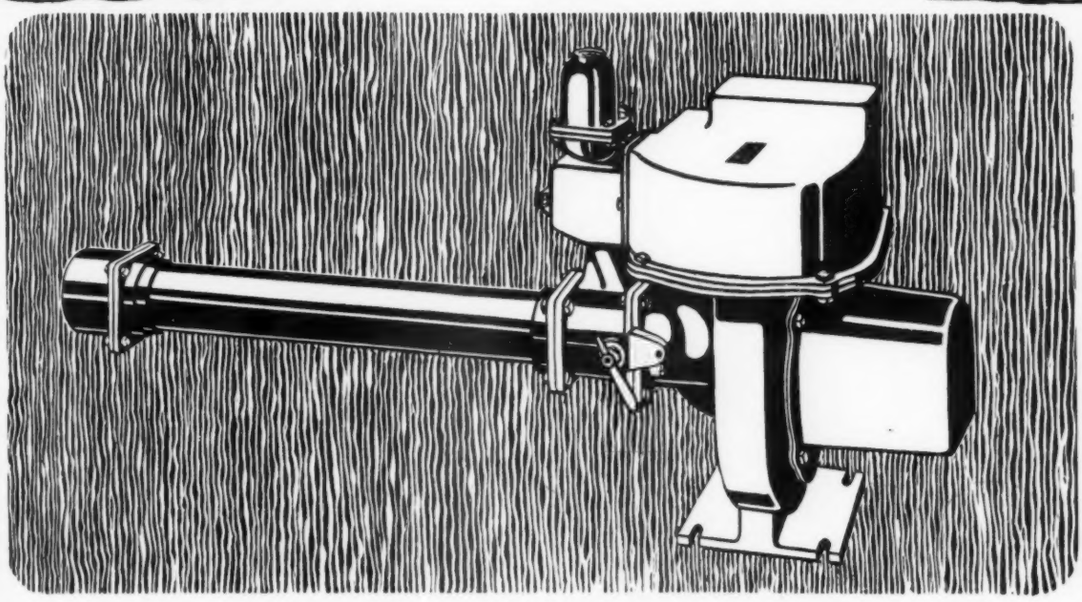
STACEY BROTHERS GAS CONSTRUCTION CO.

CINCINNATI ***Engineers and Builders*** **OHIO**

James E. Stacey, Pres.; Andrew J. Stacey, Vice-Pres.; W. A. Miller, Chief Engineer; Arthur A. Pope, Sec. & Treas.; Wayne Stacey, Gen. Sales Mgr.

Pacific Coast Representative
C. B. BABCOCK CO.
San Francisco

New England Representative
EASTERN SERVICE CO.
Boston



Gas Will Eventually Replace Coal for Industrial Use—and

The Wales Industrial Automatic Burner Will Prove Big Aid in Accomplishing It

The wide adaptability of the Wales Industrial Automatic Burner, its absolute safety and the fact that a single control proportioning valve keeps the air and gas in correct ratio whether part way or fully on, all combine to make it the logical burner for gas men to sell—and one that many industrial concerns have been waiting for.

In addition, several burner nozzles can be used from one unit—a feature that will have large appeal.

Accurate Automatic Temperature Control

Will Not Back Fire

Single Control for Both Gas and Air

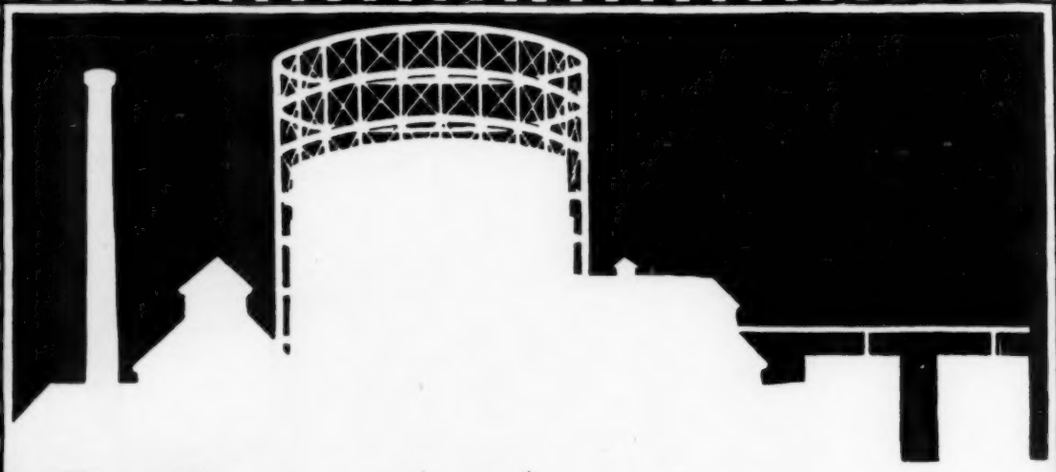
Several burner nozzles can be used from one unit

The uses of this burner are myriad. Its efficiency, convenience and safety are paramount. This winter is the opportune time to start replacing coal with gas. Write for full descriptive information.

The Wales Company Kalamazoo, Mich.

The WALES

INDUSTRIAL AUTOMATIC BURNER



Lux Material

"Lux-Material" and Plant Capacity

The present rapid increase in gas output has brought the realization to many gas engineers that their purifying capacity is too small; but they hesitate to spend the money and take up the space required for additional purifying capacity.

The immediate and economical solution to this problem is "LUX-MATERIAL." Due to its natural chemical composition, it has the property of exceptionally high absorptive capacity as regards both space occupied and time required.

Merely changing to the use of "LUX-MATERIAL" will in many cases make unnecessary the providing of additional purifying capacity for a number of years—a solution so simple as to cause skepticism in the minds of those who have never used "LUX-MATERIAL," but a fact which can be easily proved by a single shipment of "LUX-MATERIAL."

Send us a trial order today.

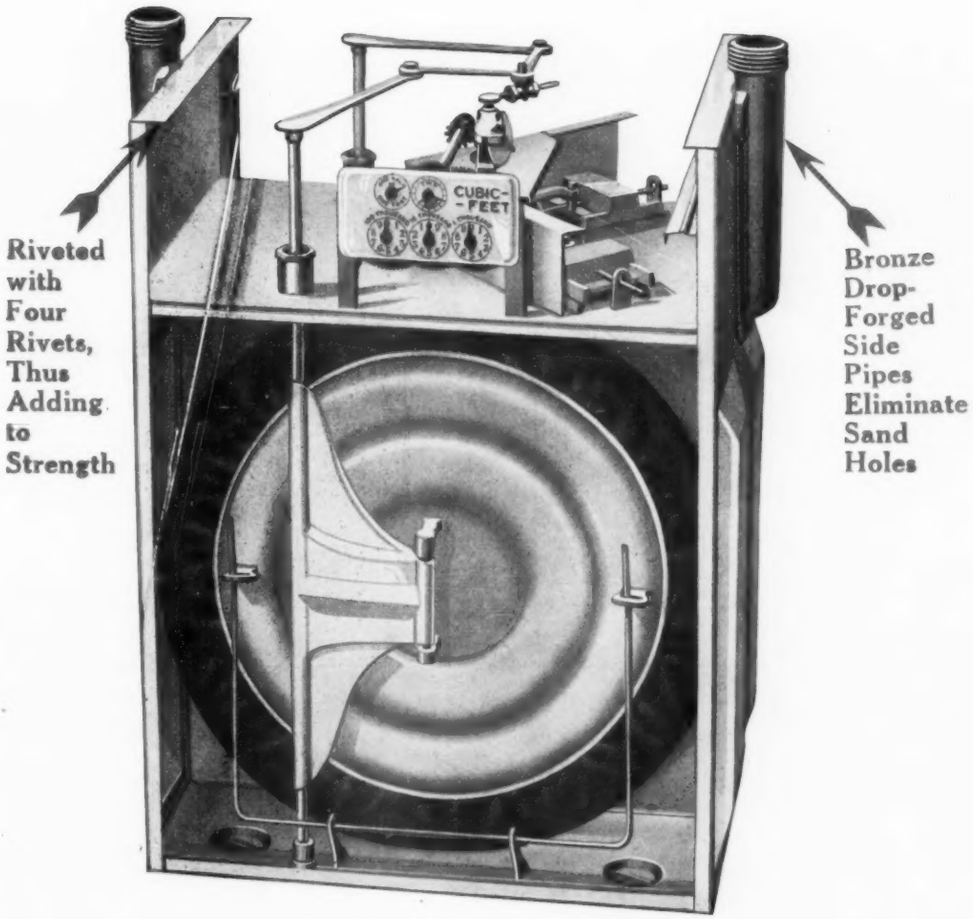
The Alpha-Lux Company

(Incorporated)

192 Front Street New York City

For further details see page 116 of the 1923 Edition
American Gas Catalog and Directory

COMPANY MEMBER OF AMERICAN GAS ASSOCIATION



Superior" is no Misnomer

"Superior" in Construction. "Superior" in Accuracy.

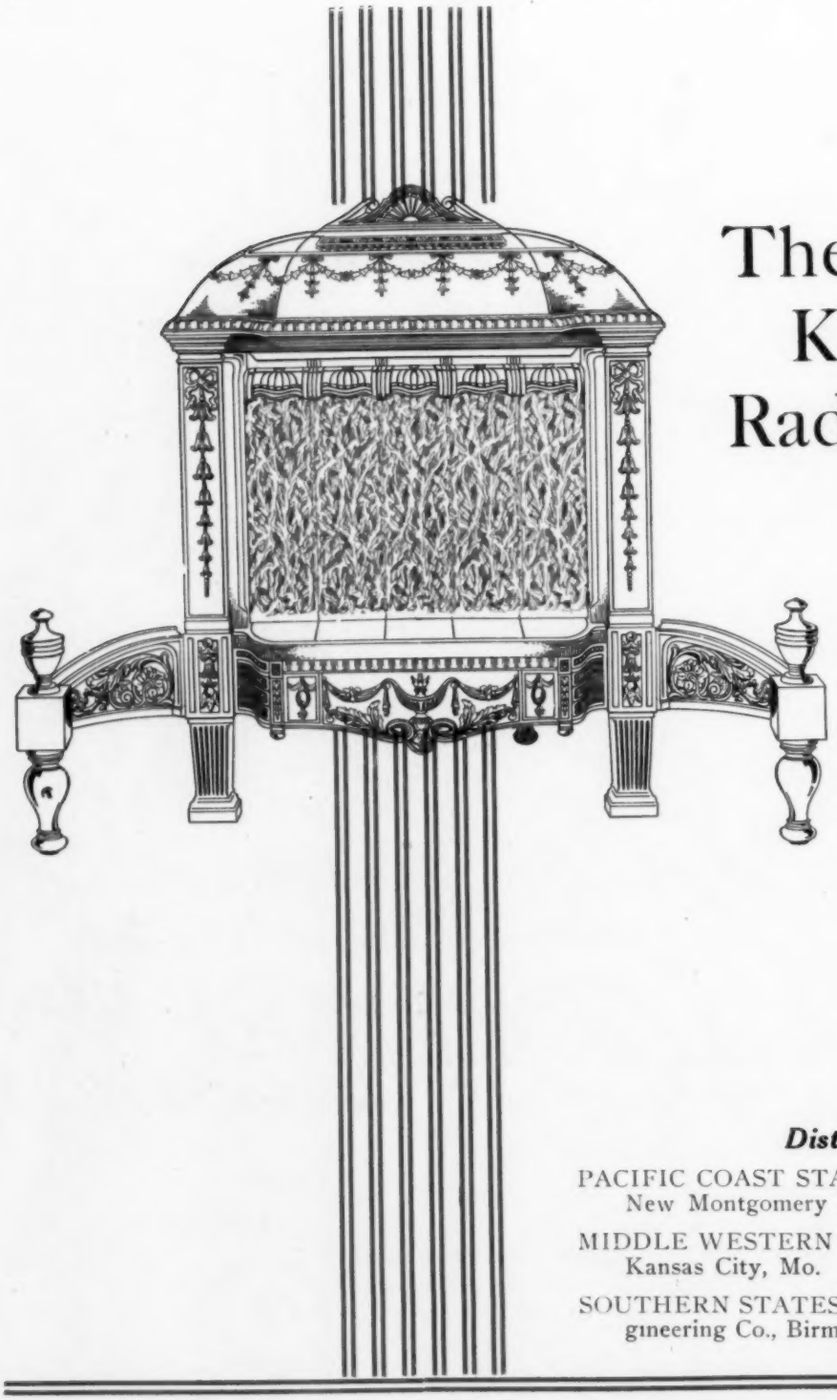
"Superior" in Service. "Superior" in Long Life.

We have a new feature that is just one more proof of Superior Construction. It is a Bronze Drop-Forged Side Pipe. Doubly Strong—Eliminates Sand Holes and any danger of Leaks. A most improved feature. Just part of our service to you, that's all.

SUPERIOR METER COMPANY
Bush Terminal Building No. 20, Brooklyn, N. Y.

Superior Meters

All that the Name Implies



The "A" Series KENNEDY Radiant Heater

The "Tiffany of Heaters"

Made in Two Finishes

Antique Brass
French Gray

"B" and "C" Series

French Gray Only

Distributors

PACIFIC COAST STATES: The T. G. Arrowsmith Co., 135 New Montgomery St., San Francisco, Cal.

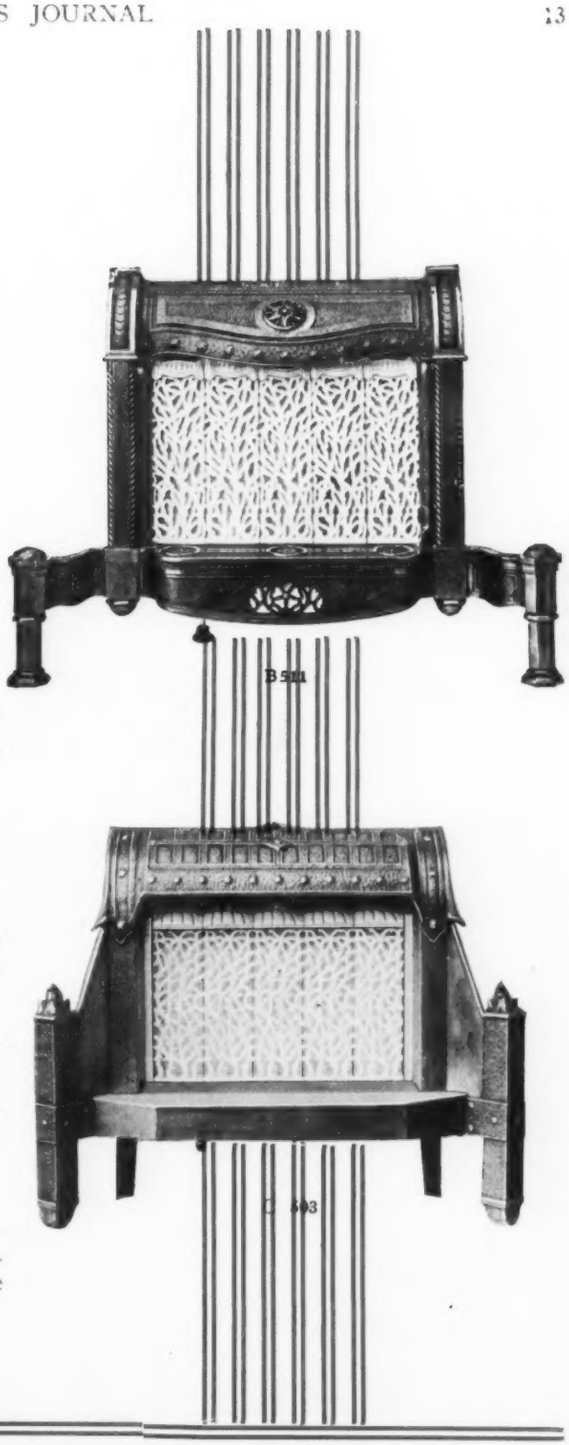
MIDDLE WESTERN STATES: R. W. Hoey, 1318 Main St., Kansas City, Mo.

SOUTHERN STATES: S. C. Bratton, Southern Industrial Engineering Co., Birmingham, Ala.

Radiant Heat Corp

126 Eleventh Avenue

Built to the Buyer's Order Right in Your Own Salesroom



With the Kennedy Radiant Heater you can build any number of heaters right in front of the eyes of your customer. All you need is a small stock and a few extra parts.

Innumerable designs are at your finger tips and your customer's tastes and requirements are easily satisfied.

This is possible because of the Interchangeable Unit System, a feature with the Kennedy that is obtainable in **no other style of heater.** No tools are necessary. All the parts are instantly accessible.

Thus it is not necessary to invest capital in a large stock of heaters of various sizes and designs in order to meet the demands. The Kennedy "A", "B" and "C" Series covers the complete range, supplying a heater for every taste and every purse.

Write Nearest Distributor for our booklets on the different series heaters. They contain complete styles, sizes and prices. You will find them very helpful in showing your customer the complete line, and in ordering.

oration of America

New York City

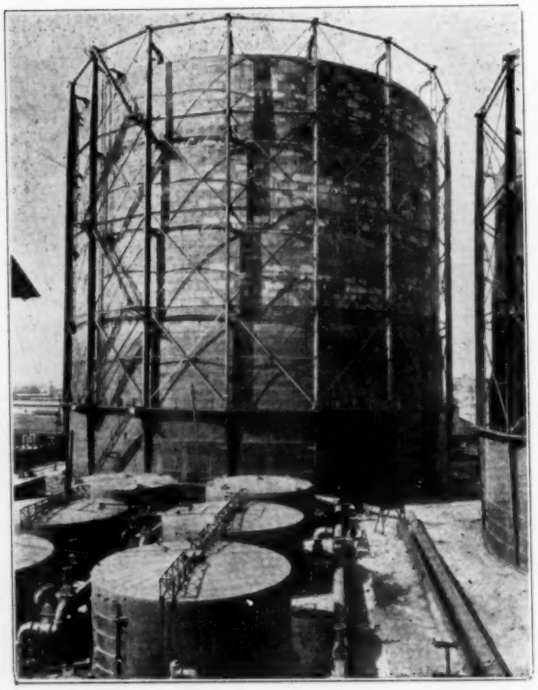
James E. Stacey,
President

Andrew J. Stacey,
Vice-President

William A. Miller,
Chief Engineer

Arthur A. Pope
Secretary and Treasurer

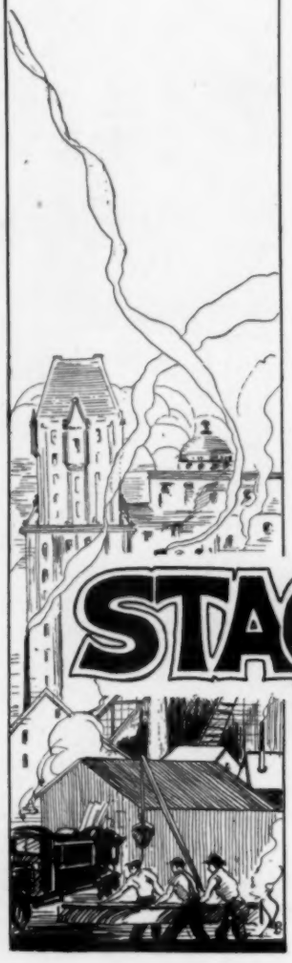
Wayne Stacey,
Gen. Sales Agent



Pacific
Coast Representative
C. B. BABCOCK CO.
San Francisco

New England
Representative
EASTERN SERVICE
CO.
Boston

When You Think of GAS HOLDERS Think of



STACEY BROTHERS
GAS CONSTRUCTION CO.

Engineers and Builders of
GAS HOLDERS
and Gas Plants
CINCINNATI OHIO

PROTEIDS--VITAMINES and CALORIES APLENTY in ELKHORN GAS COAL

LOOK AT THIS ANALYSIS

and then feed it to your Retorts and Ovens

ANALYSIS

Moisture	1.56
Volatile Matter	36.20
Fixed Carbon	57.18
Ash	5.06
	100.

Sulphur	.73
B.T.U.'s	14353.

This food has been tested by Gas Plants and found to be ideal for by-product, illuminating gas, and gas producer purposes.

Write for our Economy Cook Book containing Analyses of our Gas Coals. The Ideal Food for your Retorts and Ovens.

TILDESLEY COAL COMPANY

Ingalls Building, Cincinnati, Ohio

Branch Office

DAYTON, OHIO

The Humphrey Radiantfire is the fastest selling heating device in the world.

It sells at sight because it is known and respected in millions of homes.

It *stays* sold because it is a fine quality product that lives up to every expectation of the owner.

These are exclusive sales advantages. Are you getting your share of Radiantfire business?

GENERAL GAS LIGHT COMPANY

KALAMAZOO, MICHIGAN

NEW YORK, 44 W. BROADWAY SAN FRANCISCO, 768 MISSION STREET
Pittsburgh Buffalo Cincinnati Atlantic City

The HUMPHREY

Radiantfire

TRADE MARK REG. U.S. PAT. OFF.

100c for $1

no more-no less

At least that's a fair bargain. Most of us would be satisfied with an arrangement like this. It's fair and square all around.

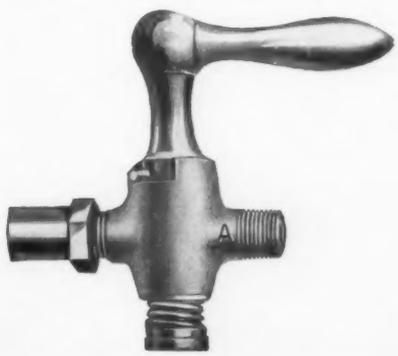
For every dollar you put into Acme Gas Cocks, you get a hundred cents in service and wear. Every Acme Gas Cock is of par value. They have passed the board of censorship of the A. G. A. and U. G. I.

We have a pamphlet out that tells all about the styles, sizes and prices. It is yours for the asking.

Send us a trial order.

Acme Brass Works

8211 Collins Avenue and
Belt Line R. R.
DETROIT, MICH.



Not How Much Does It Cost—
But How Much Is It Worth To You?

You have a right to demand real value for your money.

You want to **invest** your money rather than **spend** it — always.

And many times one of your smaller investments yields the greater return — especially when it benefits you in connection with your position.

You make such an investment when you pay $3.00 per year for a personal subscription to the American Gas Journal.

If by reading a single issue of the American Gas Journal, you learn a wrinkle that will save you time or enable you to increase your earning power — you find a way to get around that bugaboo of fixed rates — you keep abreast of the doings in other public utility companies, and the proceedings and papers delivered at the conventions which you may be unable to attend — your $3.00 is certainly a good investment.

Demand real value for your money in buying your trade paper, as you do in other buying. Not so many pages for so much money, but so much value per page.

Invest $3.00 for progress

A LIST OF THE FEATURES FOR 1924:

Catechism of Central Station Gas Engineering.

Industrial Gas Lessons.

Gas Wrinkles.

Complete Market Report.

Merchandising Articles.

Articles on Accounting, Manufacture, Distribution, Technical, and Industrial Aspects of the Gas Industry.

Four big daily issues at the time of the American Gas Association Convention.

AMERICAN GAS JOURNAL,

53 Park Place, New York.

Please enter my subscription for one year, beginning with January 5th issue, for which I agree to remit $3.00 on receipt of bill.

.....

.....

.....

Always Specify
SUPERIOR
for Quality Meters

The Cash Registers of the Gas Industry

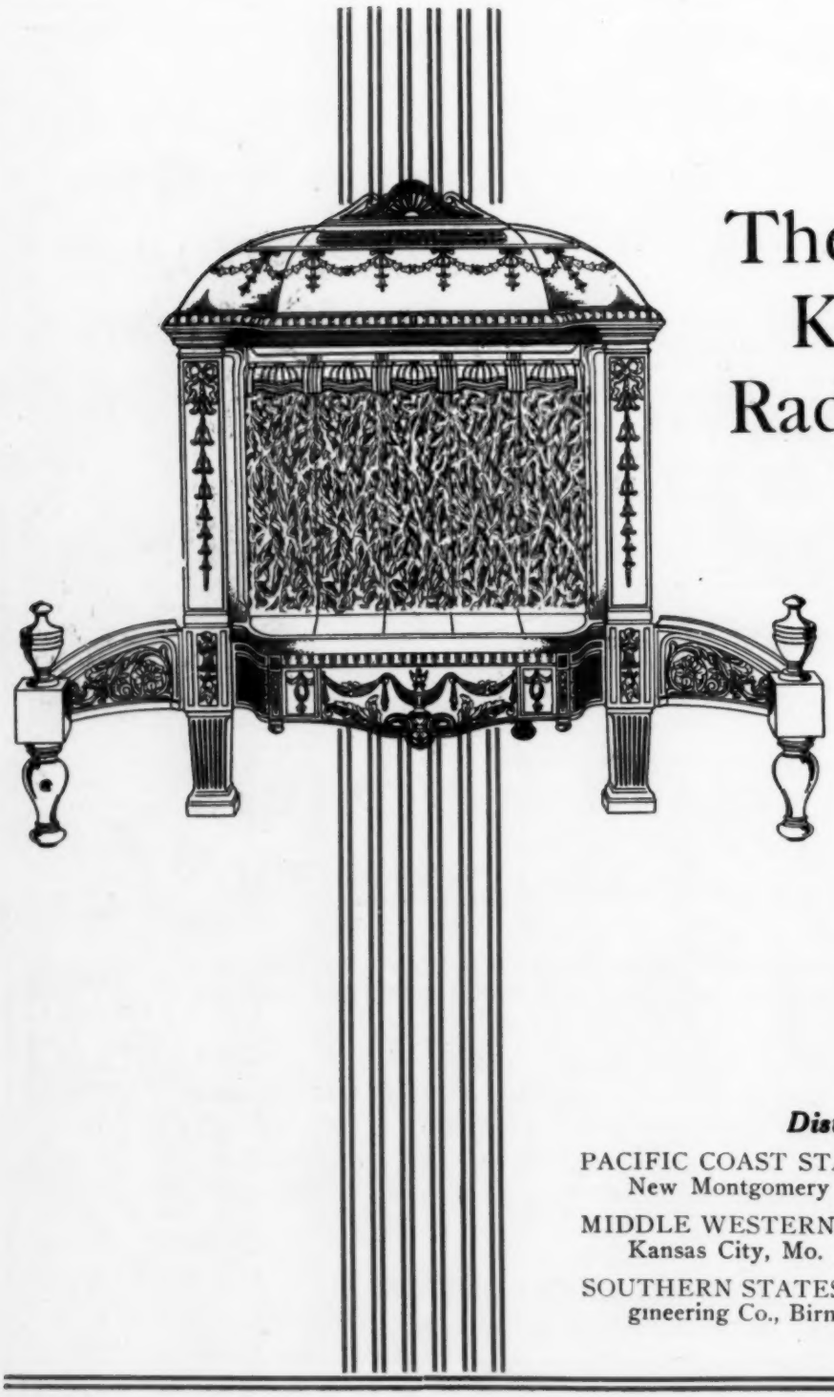
YOUR meters stand between you and your consumer as a cash register stands between the merchant and his customer.

As the cash register records the amount of cash received from the customer during the day, so in similar manner does the meter record the cubic feet of gas used.

As the cash register must record the sales accurately so must the meter register the flow of gas. Superior Meters do just that thing in just that way.

SUPERIOR METER COMPANY
BUSH TERMINAL BLDG. No. 20
BROOKLYN, N. Y.

ALL THAT THE
SUPERIOR
NAME IMPLIES



The "A" Series KENNEDY Radiant Heater

The "Tiffany of Heaters"

Made in Two Finishes

Antique Brass

French Gray

"B" and "C" Series

French Gray Only

Distributors

PACIFIC COAST STATES: The T. G. Arrowsmith Co., 135 New Montgomery St., San Francisco, Cal.

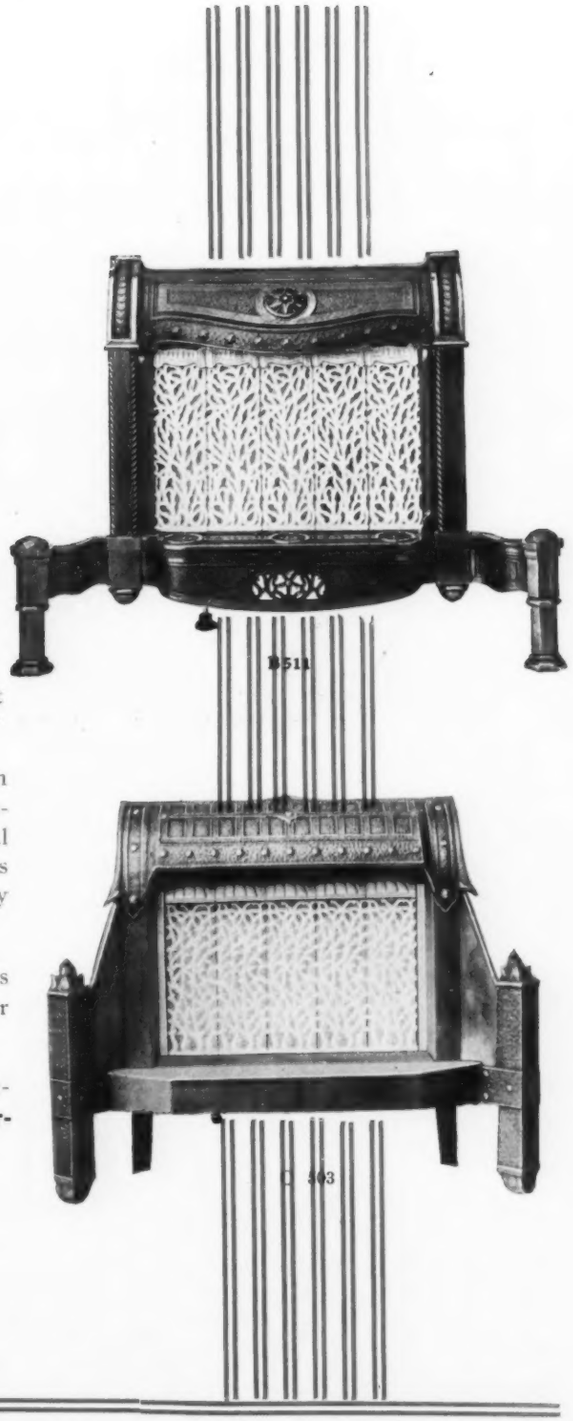
MIDDLE WESTERN STATES: R. W. Hoey, 1318 Main St., Kansas City, Mo.

SOUTHERN STATES: S. C. Bratton, Southern Industrial Engineering Co., Birmingham, Ala.

Radiant Heat Corp

126 Eleventh Avenue

Not Only a Beautiful Heater!



The sales possibilities of the Kennedy Radiant Heater do not stop here. They only commence here.

Besides beauty, the talking points include the Kennedy Non Backfire Burner, which insures **perfect combustion** and economical use of the gas. This burner was tested by the Electrical Testing Laboratories of New York, together with the burners of other radiant heaters. The results proved the Kennedy burner to be the most efficient on the market.

A graphic chart showing the operation and the results of this test has been printed by us. It should prove interesting to your appliance engineers. See that they get a copy.

No, the Kennedy Radiant Heater is not only a beautiful heater; it is an efficient heater. **Beauty + Efficiency = A Masterpiece.**

A Masterpiece at a Moderate Price means Big Sales.

Get busy with the right heater.

oration of America

New York City

GOODMAN
Automatic Gas Water Heater

Here's It's PORTRAIT

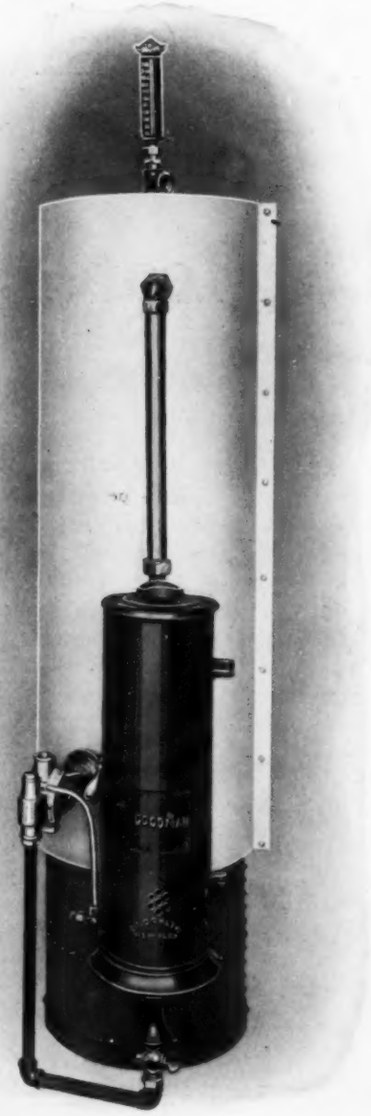
Handsome, isn't it? Really a De Luxe Automatic Storage Water Heater, but not at a De Luxe Price!

Sells for $175

But its good qualities don't end with being handsome. It works just as well as it looks, and is **made** as **good** as it looks.

Are you impressed with this portrait? If so, why not get acquainted with the original?

We are making a special introductory offer to you. To get it, fill out the coupon below.



Special Offer

Goodman Automatic Gas Water Heater Co., Inc.
523 Atlantic Ave. Brooklyn, N. Y.

Please send me without obligation details of your special introductory offer on the Goodman Automatic Water Heater.

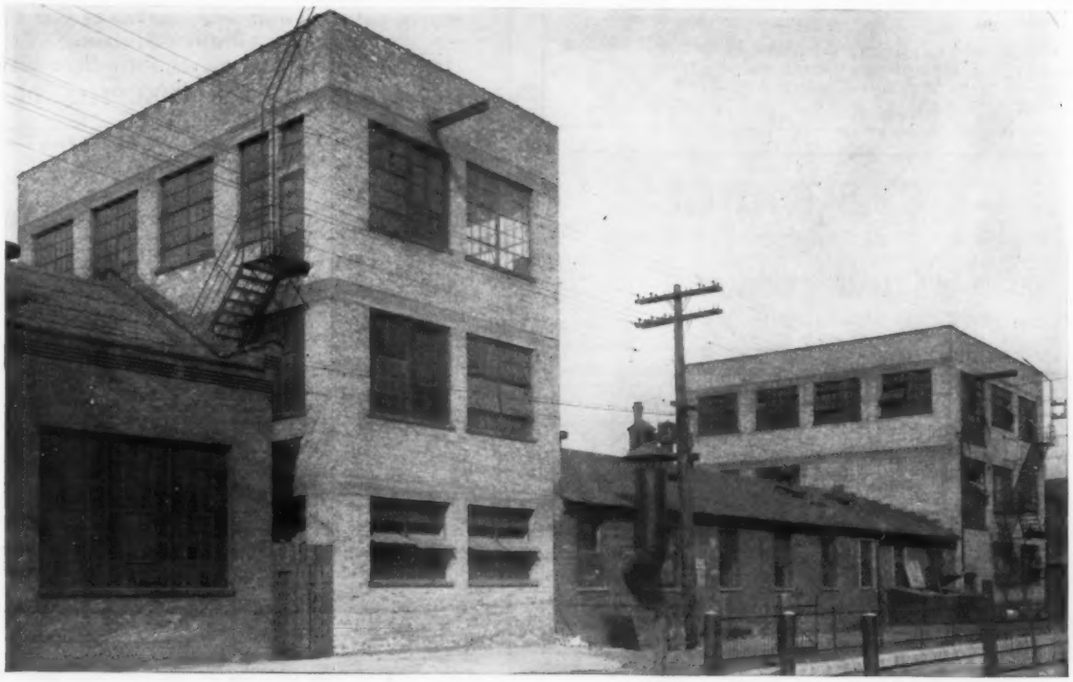
Name .....

Position .....

Company .....

Address .....

Goodman Automatic Gas Water Heater Co.
523 ATLANTIC AVENUE BROOKLYN, N. Y.



Clow Gasteam for Office and Plant

Clow Gasteam Radiators are in use by the Joseph T. Ryerson Steel Company, Chicago.

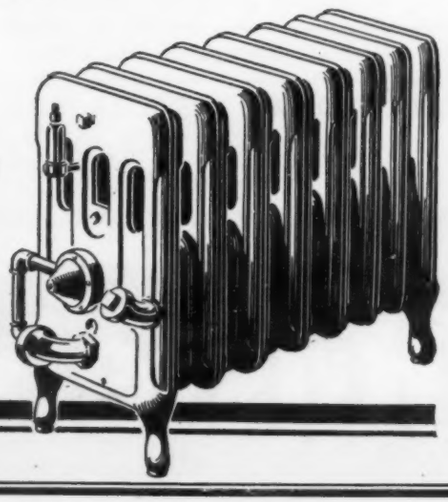
In one building Gasteam is used to heat a brass foundry, brass machine shop and office space.

It is not always desired to heat all parts of this building at the same time.

For these reasons Clow Gasteam Radiators, which furnish heat at the spot it is wanted, and at the time it is wanted, independently of a general heating plant, are ideally economical.

This is a problem of all plants consisting of detached buildings, which is solved by the installation of Clow Gasteam.

JAMES B. CLOW & SONS
General Offices: 534-546 S. Franklin Street, Chicago
Sales offices in principal cities



CLOW "GASTEAM" HEATING SYSTEMS

WILLIAM E. BARRETT
CONSULTING ENGINEER
Member A. S. M. E.—Member A. G. A.—Member N. G. A. A.
Specializing in
Manufactured and Natural Gas Properties—Design, Construction, Operation, Valuations—Reports for Financing or Rate Making—Combustion, Fuels, Oils, Etc.
56 PINE STREET NEW YORK, N. Y.

WALTER A. ALLISON
Consulting and Constructing Engineer
Design, construction, supervision of Gas Plant and Distribution System.
Investigations, Appraisals, Rate Structure.
403 WISTER ST., PHILADELPHIA, PENN.

A-B GAS RANGES
With Wilder-Metal Rust-Proof Oven Linings
A-B STOVE COMPANY
BATTLE CREEK, MICHIGAN

GEORGE H. WARING
CONSULTING ENGINEER
POWERS THEATRE BUILDING
Grand Rapids, Mich.
Offers expert services in connection with the Design, Construction, Operation, Financing and Valuation of Public Utilities

IRON OXIDE
A prepared iron boring oxide whose physical properties make it purify at least cost.
Let us solve your purifying troubles
GAS PURIFYING MATERIALS CO., Foot of Halsey St., Long Island City, New York

Consulting Engineer
SPECIALIZING COAL AND WATER GAS PROPERTIES
Valuation, Appraisal, Rates
Management, Operation, Counsel
Designing New and Rebuilding Old Plants
FRED W. FREESE
First National Bank Bldg.
Chicago, Ill.

FUEL TESTS
In addition to the standard tests embracing proximate analyses and heating values, the LABORATORIES are prepared to undertake special investigations such as the determination of the fusing point of ash, the gas yield and quantitative determinations of ammonia, nitrogen, Coal tar, etc. Our facilities are at your service.
ELECTRICAL TESTING LABORATORIES
80th Street and East End Avenue
New York City

AMERICAN
GAS PURIFYING MATERIAL
Sun Oxide of Iron
Prepared Mineral Sponge
Mineral Sponge (Lime Base)
AMERICAN MINERAL PRODUCTS & COLOR CO. Inc.
Noblestown, Pa.

STOKERS
Builders of Mechanical Stokers for 35 years
Sales and Service Offices in All Principal Cities
Address Nearest Office
Westinghouse Electric & Mfg. Co.
So. Philadelphia Works, Philadelphia, Pa.
W WESTINGHOUSE ELECTRIC
Westinghouse

Russell Engineering Company *St. Louis*
Coal Carbonization Plants, Benches, Repairs, Improvements, Extensions, Apparatus

Always Specify
SUPERIOR
for Quality Meters

The Cash Registers of the Gas Industry

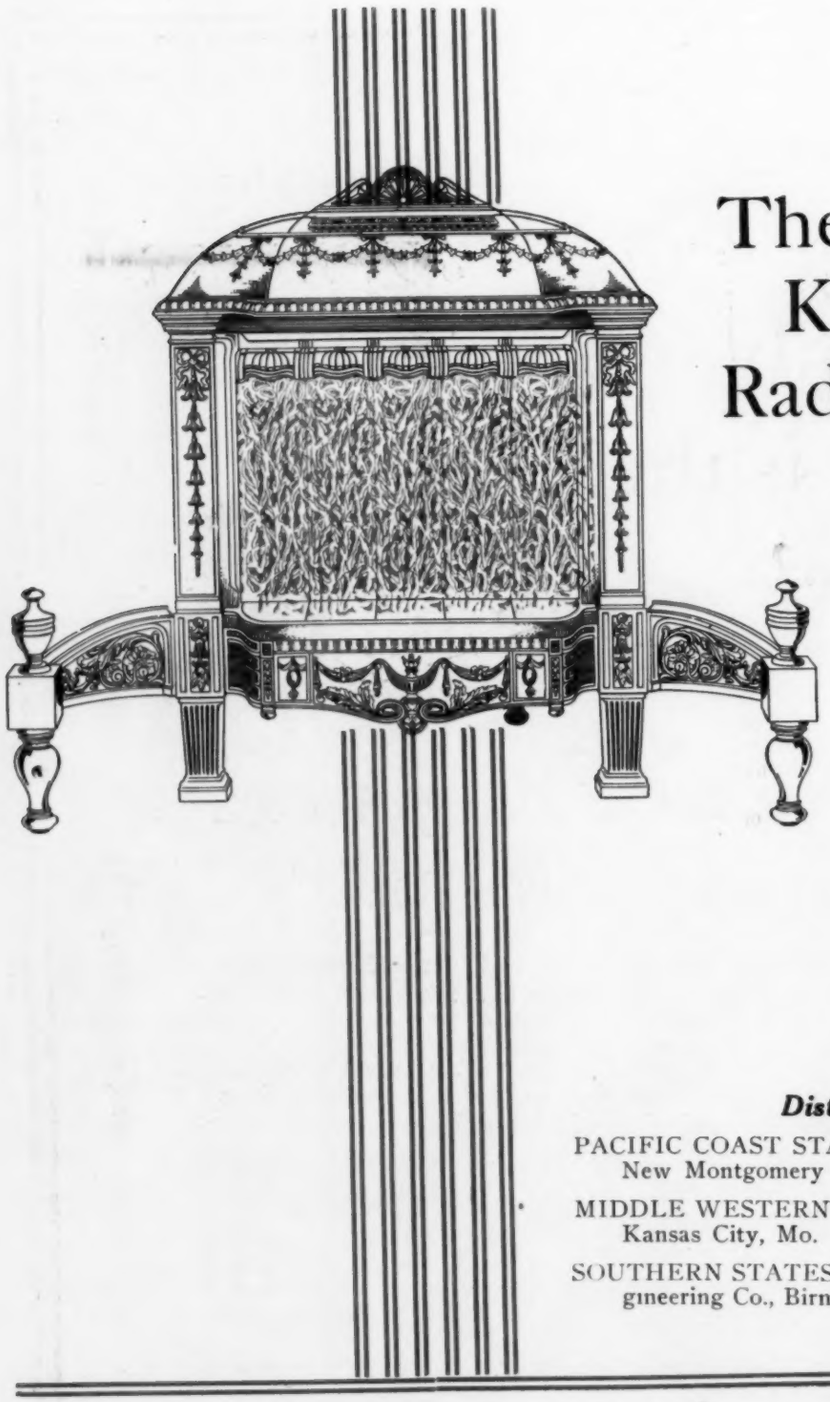
YOUR meters stand between you and your consumer as a cash register stands between the merchant and his customer.

As the cash register records the amount of cash received from the customer during the day, so in similar manner does the meter record the cubic feet of gas used.

As the cash register must record the sales accurately so must the meter register the flow of gas. Superior Meters do just that thing in just that way.

SUPERIOR METER COMPANY
BUSH TERMINAL BLDG. No. 20
BROOKLYN, N. Y.

ALL THAT THE
SUPERIOR
NAME IMPLIES



The "A" Series KENNEDY Radiant Heater

The "Tiffany of Heaters"

Made in Two Finishes

Antique Brass

French Gray

"B" and "C" Series

French Gray Only

Distributors

PACIFIC COAST STATES: The T. G. Arrowsmith Co., 135 New Montgomery St., San Francisco, Cal.

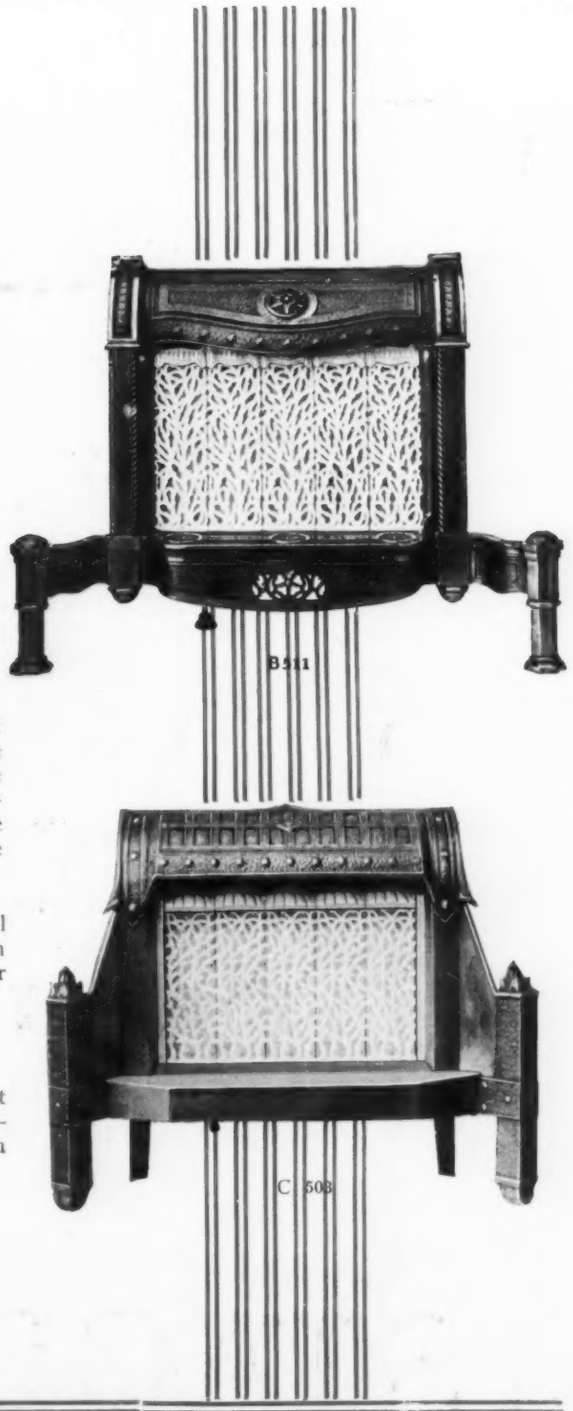
MIDDLE WESTERN STATES: R. W. Hoey, 1318 Main St., Kansas City, Mo.

SOUTHERN STATES: S. C. Bratton, Southern Industrial Engineering Co., Birmingham, Ala.

Radiant Heat Corp

126 Eleventh Avenue

The Only Difference is the Frame?



The fundamental construction of all the Kennedy Radiant Heaters is the same. The low priced "C" Series Heaters have identically the same burner, grilles and glowers as the de luxe "A" Series Heaters. They are just as efficient, just as economical with the gas, just as serviceable, and just as reliable. The only difference is the frame and the number of styles to choose from.

And yet the designs of the "C" Series Heaters are beautiful and serviceable. Finished in French Gray, they present an attractive appearance and positively are free from tarnish or discoloration.

3 sizes — two styles — making 6 variations in all.

In our opinion the "C" Series Heater is positively the best buy on the market today. Sells from 24 to 36 dollars, depending upon the size. May be used as a portable as well as a fire place heater.

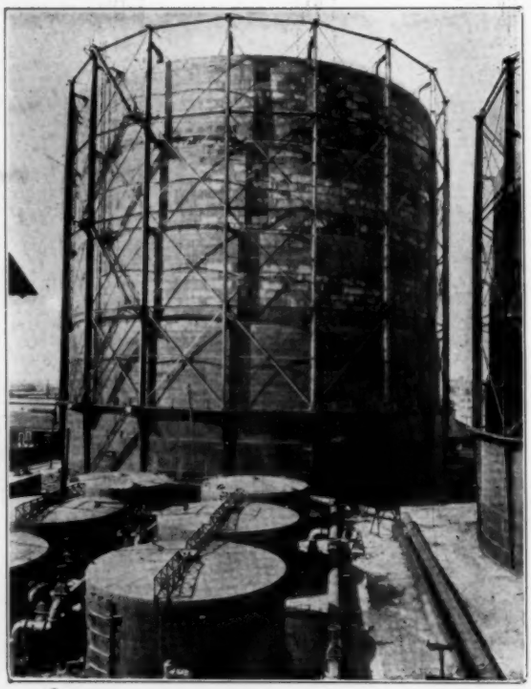
Write for circular on this Series heater.

oration of America

New York City

Pacific Coast Representative
C. B. BABCOCK CO.
San Francisco

New England Representative
EASTERN SERVICE CO.
Boston



When You
Think of
GAS HOLDERS
Think
of

STACEY BROS.

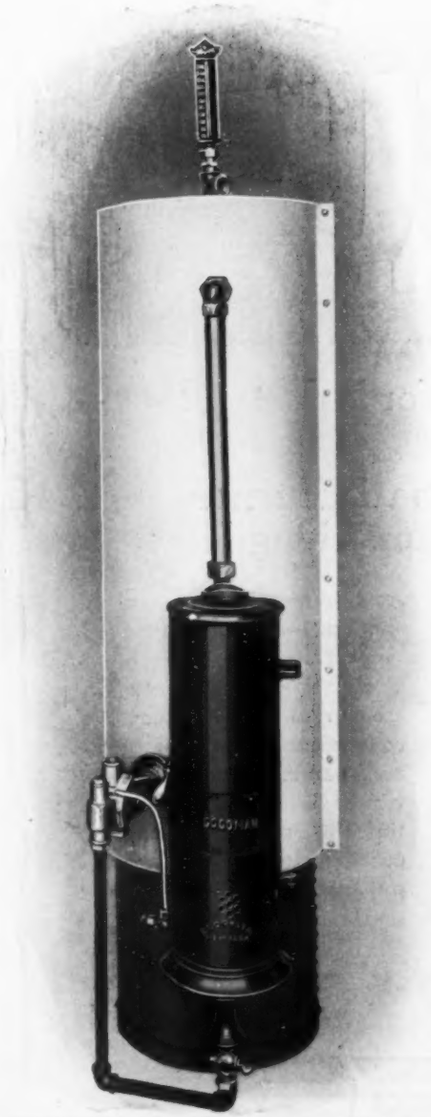
GAS CONSTRUCTION COMPANY

JAMES E. STACEY, Pres. ANDREW J. STACEY, Vice-Pres. WILLIAM A. MILLER, Chief Eng.
ARTHUR A. POPE, Sec. and Treas. WAYNE STACEY, Gen. Sales Mgr.

CINCINNATI, OHIO

NEW YORK OFFICE: 350 MADISON AVENUE P. C. RODGERS, MGR.
Tel. Vanderbilt 7219

GOODMAN
Automatic Gas Water Heater



Our Special Proposition Will Be of Interest to You

It costs you nothing but a 2c stamp to find out. We would enclose that if it were possible to put one in this advertisement.

But as it is, we will have to depend upon *you* for the stamp. The details and particulars of our special offer and sales proposition will more than repay you the small investment.

The coupon below takes some of the details off your shoulders. Fill it out now before you forget.

Remember, this automatic gas water heater is fully guaranteed to you and your customers for a period of one year. And it sells to them for $175. Instant hot water at a low price,—that's what the big majority of people are waiting for. The opportunity is yours.

GOODMAN AUTOMATIC GAS WATER HEATER CO. Inc.
523 Atlantic Ave., Brooklyn, N. Y.

Use This Coupon

Goodman Automatic Gas Water Heater Co., Inc.,
523 Atlantic Ave.,
Brooklyn, N. Y.

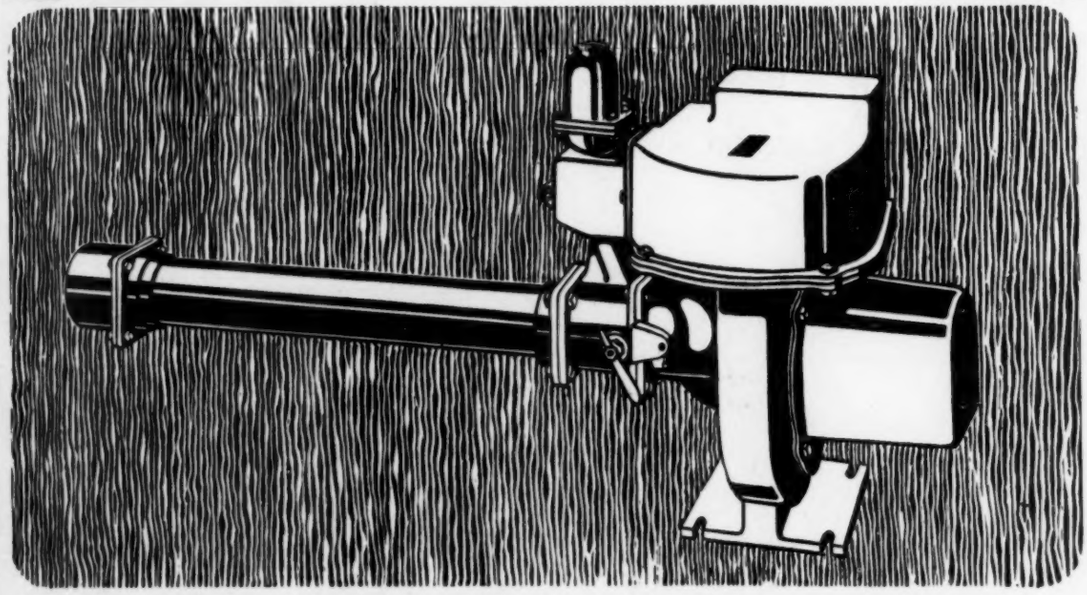
Please send me without obligation details of your special introductory offer on the Goodman Automatic Water Heater.

Name .....

Position .....

Company .....

Address .....



Gas Will Eventually Replace Coal for Industrial Use—
and
The Wales Industrial Automatic Burner Will Prove Big Aid in Accomplishing It

The wide adaptability of the Wales Industrial Automatic Burner, its absolute safety and the fact that a single control proportioning valve keeps the air and gas in correct ratio whether part way or fully on, all combine to make it the logical burner for gas men to sell—and one that many industrial concerns have been waiting for.

In addition, several burner nozzles can be used from one unit—a feature that will have large appeal.

Accurate Automatic Temperature Control

Will Not Back Fire

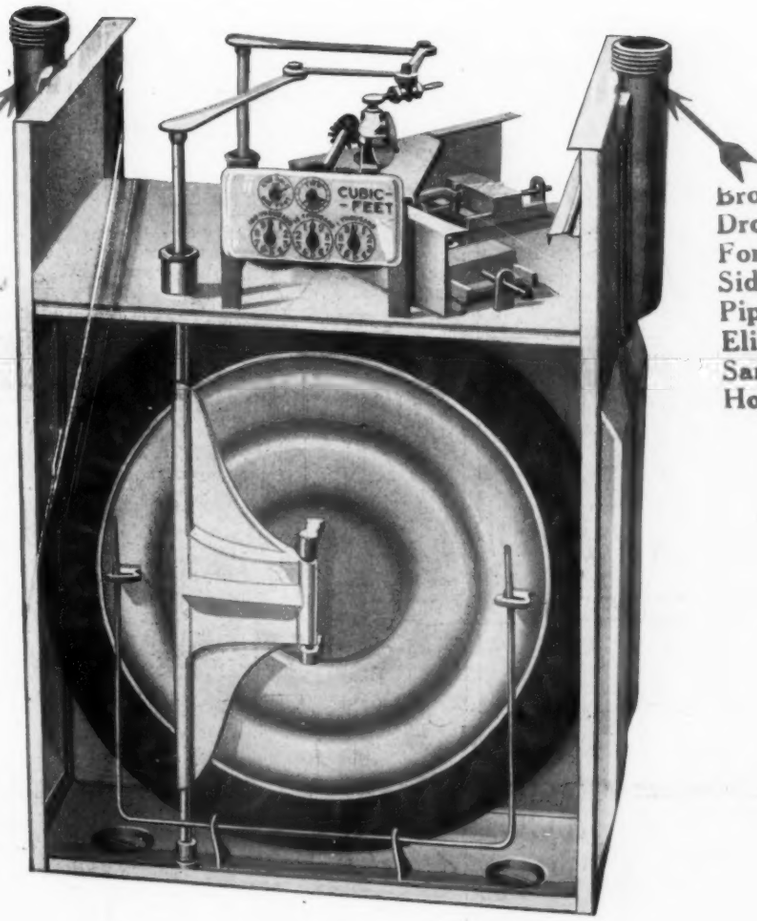
Single Control for Both Gas and Air

Several burner nozzles can be used from one unit

The uses of this burner are myriad. Its efficiency, convenience and safety are paramount. This winter is the opportune time to start replacing coal with gas. Write for full descriptive information.

The Wales Company **Kalamazoo, Mich.**

The WALES
INDUSTRIAL AUTOMATIC BURNER



"Superior" is no Misnomer

"Superior" in Construction. "Superior" in Accuracy.

"Superior" in Service. "Superior" in Long Life.

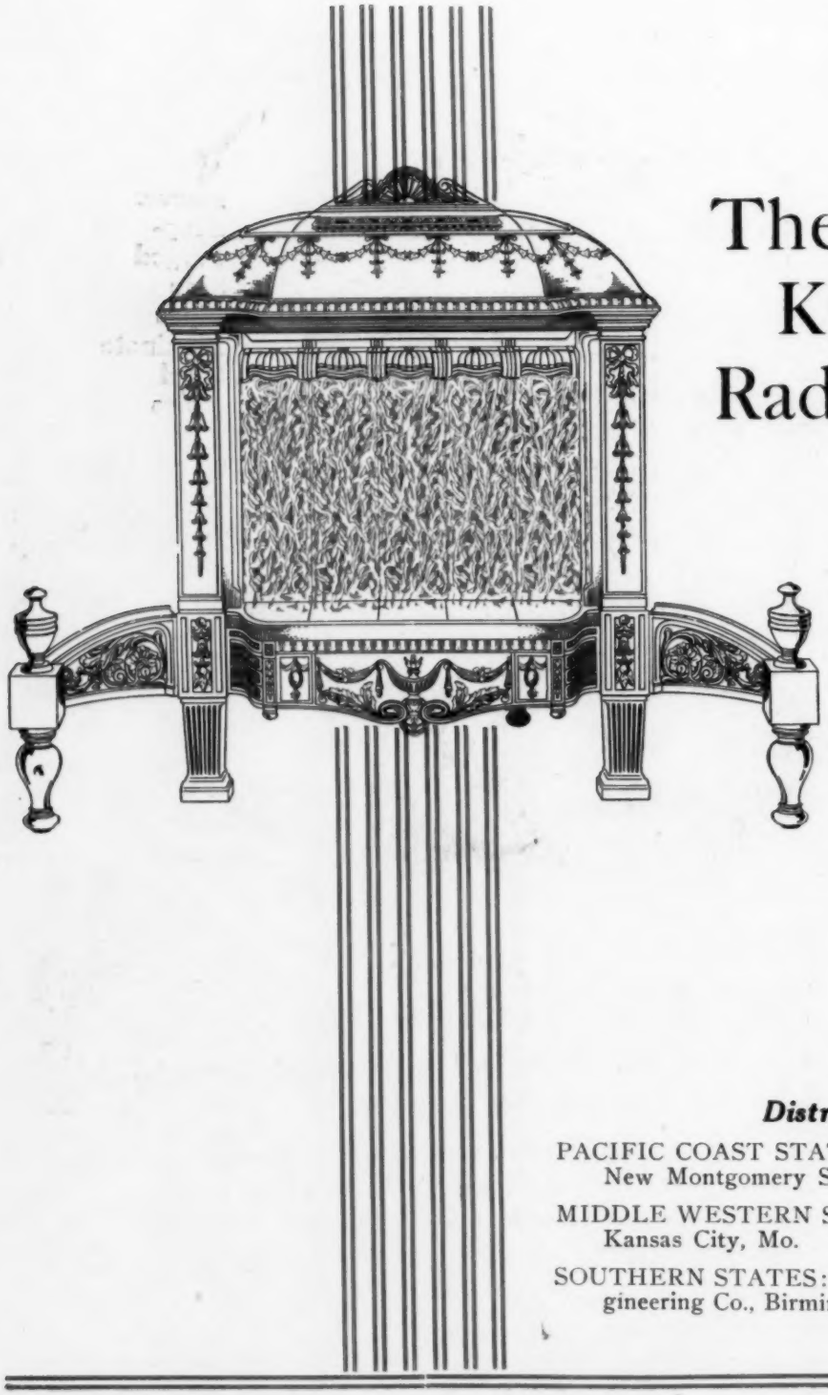
We have a new feature that is just one more proof of Superior Construction. It is a Bronze Drop-Forged Side Pipe. Doubly Strong—Eliminates Sand Holes and any danger of Leaks. A most improved feature. Just part of our service to you, that's all.

SUPERIOR METER COMPANY

Bush Terminal Building No. 20, Brooklyn, N. Y.

Superior Meters

All that the Name Implies



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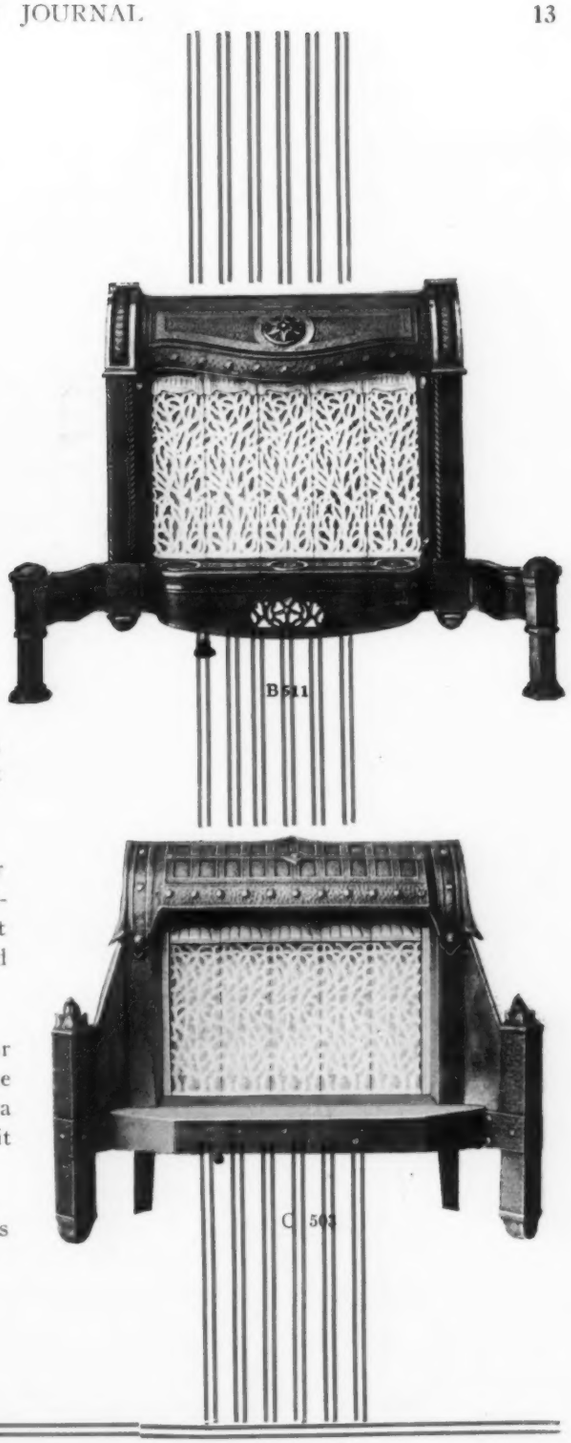
Radiant Heat Corp

126 Eleventh Avenue

Go After the Architects!



Appliance Departments of Gas Companies that keep in touch with architects, builders and decorators, will find that there is a big field for sales among this class of men.

The beauty and adaptability of the Kennedy Radiant Heater have an instant appeal to men planning the interiors and architecture of the modern home. Follow up the leads you get. Put salesmen on the job of selling by house to house canvass and personal calls on builders of blocks and individual houses.

Our co-operation will be whole-hearted and sincere. Our book of styles will be helpful in convincing the skeptical. The wide range of designs possible from one heater and a few extra parts makes it possible for you to satisfy any taste and to suit any architectural interior.

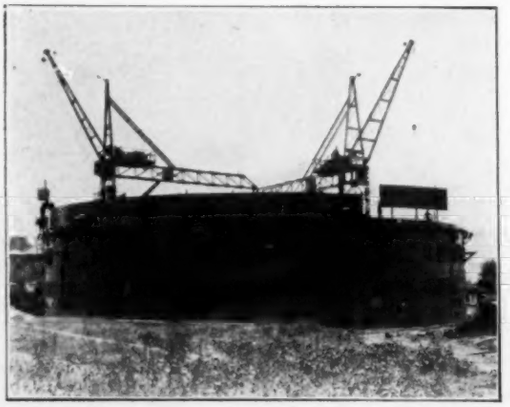
Get behind the Kennedy Radiant Heater and push it this spring.

oration of America

New York City

Pacific Coast Representative
C. B. BABCOCK CO.
San Francisco

New England Representative
EASTERN SERVICE CO.
Boston



MODERN ERECTION EQUIPMENT

Stacey Brothers Gas Construction Company employs in the construction of its gas holders the most modern erection equipment, thus effecting a saving in time and in money for the customer. Improved erection facilities speed up the work and insure accuracy and sound construction in every detail. The smallest things and the largest things are done well. Your new holder should be built by Stacey Brothers Gas Construction Co.

STACEY BROS.

GAS CONSTRUCTION COMPANY

JAMES E. STACEY, Pres. ANDREW J. STACEY, Vice-Pres. WILLIAM A. MILLER, Chief Eng.
ARTHUR A. POPE, Sec. and Treas. WAYNE STACEY, Gen. Sales Mgr.

CINCINNATI, OHIO

NEW YORK OFFICE: 350 MADISON AVENUE P. C. RODGERS, MGR.
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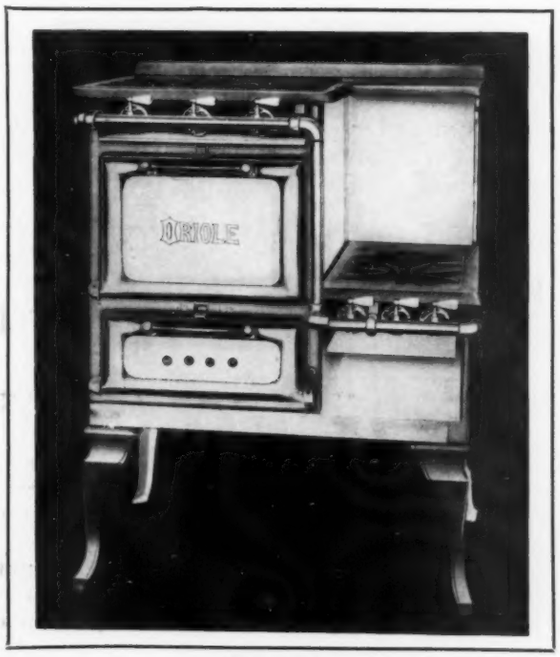
A Full Sized Cabinet Range Designed to Fit in 33 Inch Space



132 E. G.

ORIOLE

GAS RANGES

All that the A. G. A. Specifications call for —and more

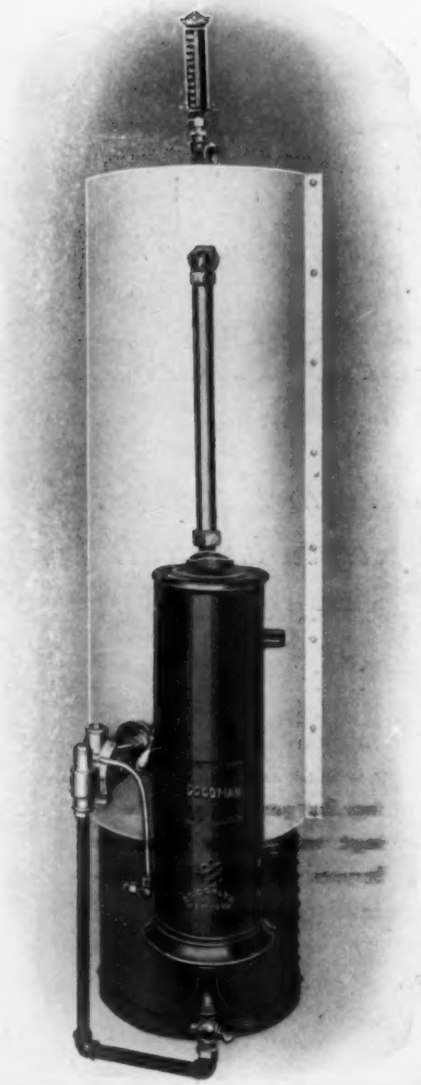
The 132 Enamel Grey Oriole Range is especially designed for a Kitchen with limited space. It has a 16″ x 18″ x 12″ Oven, two 4″ burners, a simmering burner on top, and one 6″ x 4″ burner on the side for heavy duty work. A cast iron top that permits vessel to be kept warm away from the burners. It is a full size cabinet range in every respect.

COMPANY MEMBER OF AMERICAN GAS ASSOCIATION

The Baltimore Gas Appliance & Manufacturing Co.

Baltimore, Md.

GOODMAN
Automatic Gas Water Heater



We Want Every Appliance Department Manager to Know about Our Special Proposition

It was designed especially for gas companies, and with their problems in mind. The coupon below, filled out and sent to us, will bring full particulars without obligation to you. Remember this High Quality Automatic Gas Water Heater is *unconditionally* Guaranteed for one year to you and your customers. Instant Hot Water at a Low Cost is what they want and what you can give them with the Goodman Automatic Gas Water Heater.

GOODMAN AUTOMATIC GAS WATER HEATER CO., Inc.
523 Atlantic Ave., Brooklyn, N. Y.

Use This Coupon

Goodman Automatic Gas Water Heater Co., Inc.,
523 Atlantic Ave.,
Brooklyn, N. Y.

Please send me without obligation details of your special introductory offer on the Goodman Automatic Water Heater.

Name .....

Position .....

Company .....

Address .....

"A STYLE AND SIZE FOR EVERY NEED"

NO matter what your requirements are in the gas cock line we can fill them.

In our most complete and modern line of gas cocks may be found gas cocks for ranges, gas cocks for hot plates, gas cocks for water heaters, and gas cocks for other gas appliances, big and little, tall and short, with stub-nosed nozzles and patent jets; some with porcelain handles, and some with black enamel; made of brass; made to suit U. G. I. specifications and also to comply with A. G. A. specifications; standard and special; all kinds, all styles, all sizes.

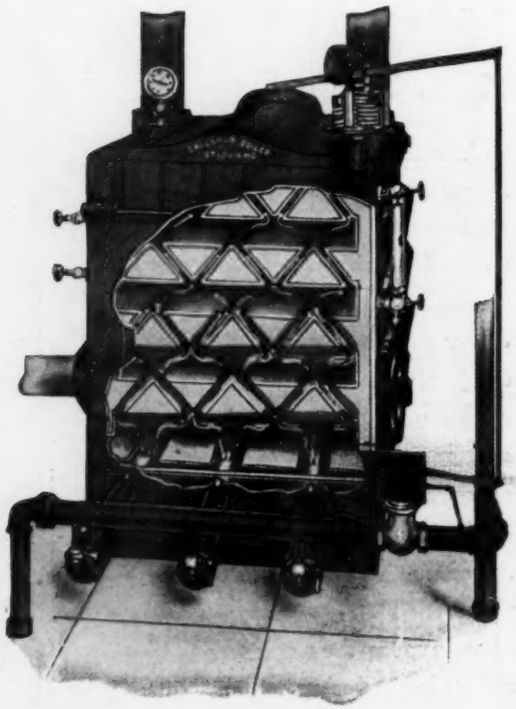
Acme
GAS COCKS

ACME BRASS WORKS

8211 Collins Avenue and Belt Line R. R.
DETROIT, MICH.

NEW YORK OFFICE, 150 NASSAU ST.
CHICAGO OFFICE, 79 WEST MONROE ST.

Other Gas Companies Are Doing It!



Send for our booklet and terms and learn how Gallaher Gas-Fired Boilers will increase both Volume Sendout and Profit.

TO educate the masses to the convenience, cleanliness, economy, wastelessness, safety and all the other virtues of house heating by gas, will take time and patience; but if the start is not made the goal will never be reached.

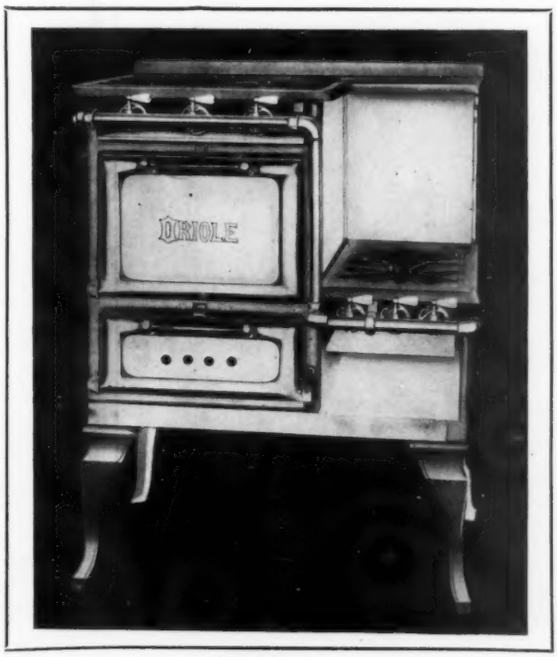
Yet there are some gas companies who have approached the house-heating-by-gas problem in an earnest, systematic manner; notably, The Laclede Gas Light Co. of St. Louis, who have surmounted all of the difficulties and whose efforts have been entirely successful.

The present time is most propitious for forcibly presenting the advantages of heating by gas, on account of the unsettled conditions in the coal industry with the possible shortage of this fuel next winter, and householders are therefore in a more receptive mood for improved gas appliances, such as the Gallaher Boiler and Storage Tank Heater.

GALLAHER GAS-FIRED TUBULAR BOILERS for Hot Water, Vapor and Steam Heating when shown, lower the sales resistance to this type of house heating and make easy the introduction of gas into a new realm of usefulness; to the satisfaction of the customer and profit of the gas company.

GALLAHER BOILER CO.

Laclede Gas Building, St. Louis, Mo.



132 E. G.

ORIOLE

GAS RANGES

All that the A. G. A. Specifications call for —and more

A Full Sized Cabinet Range Designed to Fit in 33 Inch Space

Many kitchens are of limited size, and as space is much to be desired, it is necessary that household appliances be as efficient and compact as possible.

Here is the 132 E. G. ORIOLE Gas Range, a full size cabinet range in every respect.

It has a 16″ x 18″ x 12″ Oven, two 4″ burners, a simmering burner on top and one 6″ x 4″ burner on the side for heavy duty work. It is equipped with a cast iron top that permits vessels to be kept warm away from the burners.

COMPANY MEMBER OF AMERICAN GAS ASSOCIATION

The Baltimore Gas Appliance & Manufacturing Co.

Baltimore, Md.

THE FRANKLIN *Quick Removable* GAS BURNER SYSTEM

Change from Gas to Coal in One Minute without Tools

Showing Installation in Warm Air Furnace.

For Spring House Heating Business

At present coal prices, every home owner is a prospect for the FRANKLIN. Its economy and efficiency have been proven by thousands during the past five years.

The Franklin New Improved Quick Removable Gas Burner solves the problem for residence combination gas and coal heating. It can be installed in any hot water or steam boiler, also warm air furnaces of any type. The Quick Removable feature permits complete removal or reinstallation in a minute's time without the use of tools.

Another special feature is the combination swinging stop cock, which permits the burner arm to be swung in front of the door and out of the way of furnace or boiler as desired, making a leak-proof installation when the burners are in use and a positive shut out when the arm is swung out of the way when not in use.

The Venturi Tube construction is scientifically accurate and is designed from the calculations for Venturi Tubes approved by the UNITED STATES BUREAU OF STANDARDS. Economy and perfect combustion are obtained under any and all conditions without any air mixer regulation, as varying gas pressures will not affect the burner or cause it to back fire in the mixer or go out under low pressure.

The Franklin Systems are built in various sizes and units to meet all requirements from the smallest to the largest heating plant.

Write us today about our Special Display Outfit

FRANKLIN GAS BURNER MFG. CO.

Vine and Mitchell Avenues

CINCINNATI, OHIO

ACME GAS COCKS

GAS COCKS FOR ALL PURPOSES

WE manufacture a large variety of styles and sizes of gas cocks for ranges, hot plates, water heaters and other gas appliances. Made according to all specifications, including A. G. A. and U. G. I.

Our methods of manufacture assure you a high grade product at a minimum cost.

The modern manufacturing facilities contained in our plant in Detroit, enable us to take care of customers and make prompt shipments in a manner that we consider to be unexcelled.

We will be glad to send you a booklet showing the different styles, sizes and prices of Acme Gas Cocks. Consult us as to your Gas Cock Requirements.

Acme Brass Works

8211 Collins Avenue and
Belt Line R. R.
DETROIT, MICH.

Not How Much Does It Cost—
But How Much Is It Worth To You?

You have a right to demand real value for your money.

You want to **invest** your money rather than **spend** it — always.

And many times one of your smaller investments yields the greater return — especially when it benefits you in connection with your position.

You make such an investment when you pay $3.00 per year for a personal subscription to the American Gas Journal.

If by reading a single issue of the American Gas Journal, you learn a wrinkle that will save you time or enable you to increase your earning power — you find a way to get around that bugaboo of fixed rates — you keep abreast of the doings in other public utility companies, and the proceedings and papers delivered at the conventions which you may be unable to attend — your $3.00 is certainly a good investment.

Demand real value for your money in buying your trade paper, as you do in other buying. Not so many pages for so much money, but so much value per page.

Invest $3.00 for progress

A LIST OF THE FEATURES FOR 1924:

Catechism of Central Station Gas Engineering.
Industrial Gas Lessons.
Gas Wrinkles.
Complete Market Report.
Merchandising Articles.
Articles on Accounting, Manufacture, Distribution, Technical, and Industrial Aspects of the Gas Industry.
Four big daily issues at the time of the American Gas Association Convention.

AMERICAN GAS JOURNAL,
53 Park Place, New York.

Please enter my subscription for one year, for which I agree to remit $3.00 on receipt of bill.

.....

.....

.....

NOAH WEBSTER Says—

Superior, means—

Surpassing in Quality; more excellent; preferable

AND there you have it in a nutshell. That's just what Superior meters are. "Surpassing in Quality." Right through from finest quality tinplate to special New Zealand sheepskin diaphragms, we have kept the word Quality in mind. And the result proves it.

"Preferable" also a synonym for "Superior." Now there's the rub. That applies to *you*. It's preferable from *your* standpoint. Let us quote you on a lot now.

SUPERIOR METER COMPANY

Bush Terminal Building No. 20
BROOKLYN, N. Y.

The C. B. BABCOCK CO., 768 Mission St., San Francisco, Cal.

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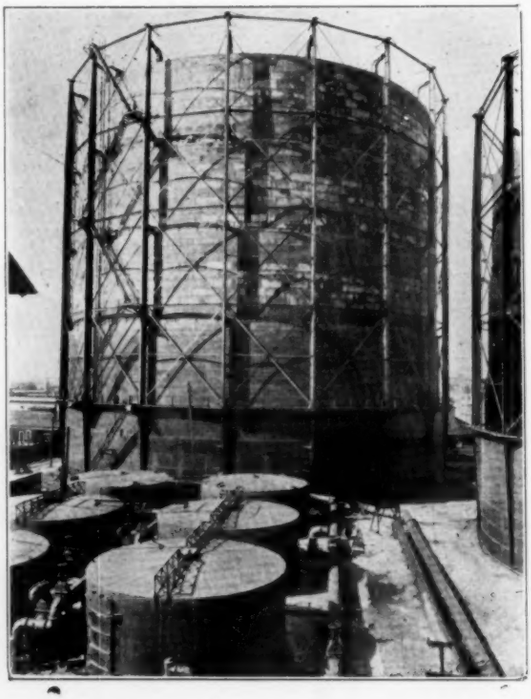

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NEW YORK OFFICE: 350 MADISON AVENUE P. C. RODGERS, MGR.
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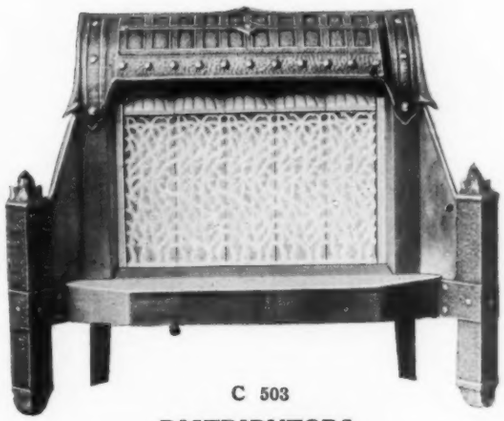
When Your Customer Asks for Something "Lower in Price"



C 503

DISTRIBUTORS

Pacific Coast States: The T. G. Arrowsmith Co.,
135 New Montgomery St.,
San Francisco, Calif.

Middle Western States: Kennedy Heater Sales Co.,
1500 Consumers Bldg.,
Chicago, Ill.

Southern States: S. C. Bratton, Southern Industrial Engineering Co.,
Birmingham, Ala.

Southwestern States: R. W. Hoey,
1318 Main St.,
Kansas City, Mo.

New England States: Eastern Service Co.,
131 State St.,
Boston, Mass.

YOU can't build business by offering an inferior article to meet the low-price demand.

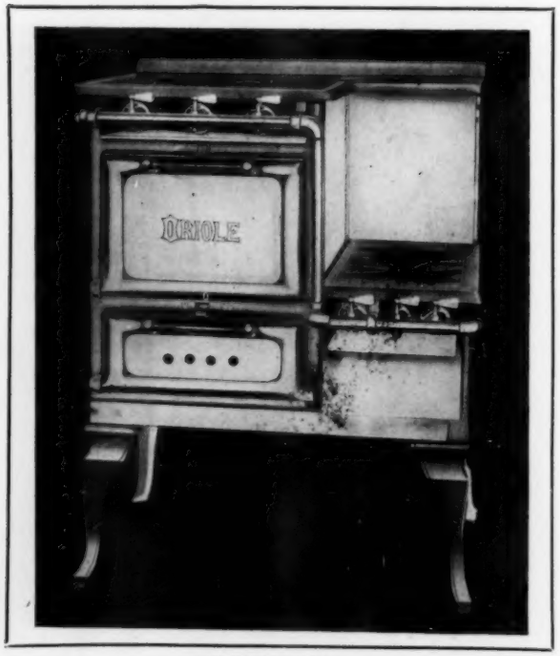
Series "C" Kennedy Heaters have the same high quality materials and construction as our Series "A" and "B." While they are priced to meet the cost demand of any consumer, their performance will build goodwill from your most exacting trade.

The pleasing appearance and efficient service of Series "C" Kennedy Heaters have opened the use of this type of heater to a great number of prospects who would otherwise never know the real economy, convenience and safety of this type of gas heater.

We shall be glad to tell you more about the entire line of Kennedy Radiant Heaters. For information, write our main office or our nearest distributor.

Radiant Heat Corporation of America
126 ELEVENTH AVENUE
NEW YORK CITY

KENNEDY
RADIANT HEATERS



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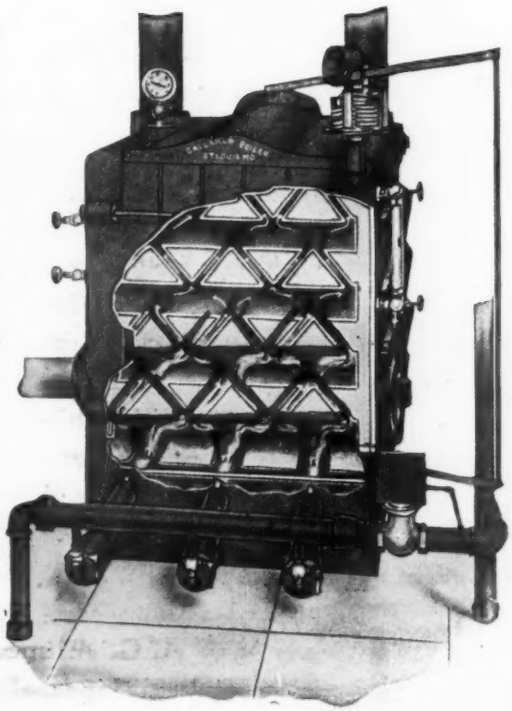

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GALLAHER BOILER CO.

Laclede Gas Building, St. Louis, Mo.

"A STYLE AND SIZE FOR EVERY NEED"

NO matter what your requirements are in the gas cock line we can fill them.

In our most complete and modern line of gas cocks may be found gas cocks for ranges; gas cocks for hot plates, gas cocks for water heaters, and gas cocks for other gas appliances, big and little, tall and short, with stub-nosed nozzles and patent jets; some with porcelain handles, and some with black enamel; made of brass; made to suit U. G. I. specifications and also to comply with A. G. A. specifications; standard and special; all kinds, all styles, all sizes.

Acme
GAS COCKS

ACME BRASS WORKS

8211 Collins Avenue and Belt Line R. R.
DETROIT, MICH.

NEW YORK OFFICE, 150 NASSAU ST.
CHICAGO OFFICE, 79 WEST MONROE ST.

COLONIAL DESIGN Nº111

If you sell the Humphrey Radiantfire you have the satisfaction of knowing that a broad national advertising campaign is working for you day and night.

If you sell merchandise that is unknown to the public you must create all the demand yourself. As a merchant you certainly know which is the easier job — the surer way to profits.

GENERAL GAS LIGHT COMPANY

KALAMAZOO, MICH.

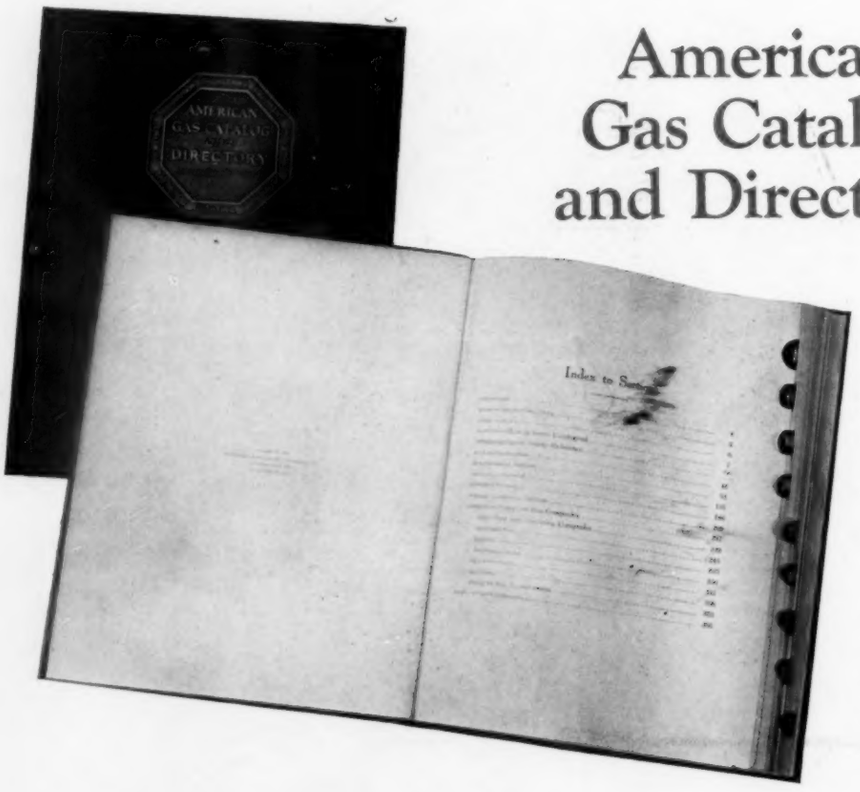
NEW YORK, 44 W. BROADWAY SAN FRANCISCO, 768 MISSION STREET

Pittsburgh Buffalo Cincinnati Atlantic City

The HUMPHREY

Radiantfire

TRADE MARK REG. U.S. PAT. OFF.



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Street No .....
City....., State.....

HIGH GRADE INSTRUMENTS
for the
GAS INDUSTRY

Road Kettle Thermometer

Precision means Accuracy.
Accuracy demands high grade material to achieve its results.
Temperature Instruments must be accurate to be of full value.
Our instruments are high grade and accurate and our name is the Precision Thermometer and Instrument Co.
For high grade, accurate precise instruments, come to us.

Thermometers:
For Calorimeters, For the Gas Laboratory, For Distillation, for Gas Ovens, For Pipe Lines, For Stills and Retorts, For Road Materials, For the Field, For All Purposes.

Hydrometers and Hygrometers.
For Laboratory and Plant.

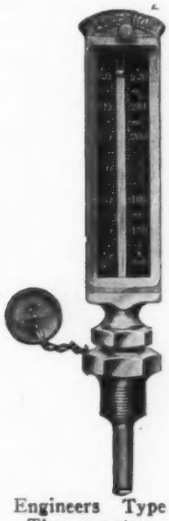
Manometers:
For Gas Pressures and Syphon Gauges.

Vacuum Gauges:
Full Mercury Column—Primary Standards.

Draft Gauges:
For the Boiler Room.

Instrument Making:
Special and Experimental. Skilled Instrument Makers with Long Experience on Special Work.

U. S. S. C. Std. Barometer



Engineers Type Thermometer

Vacuum Gauge

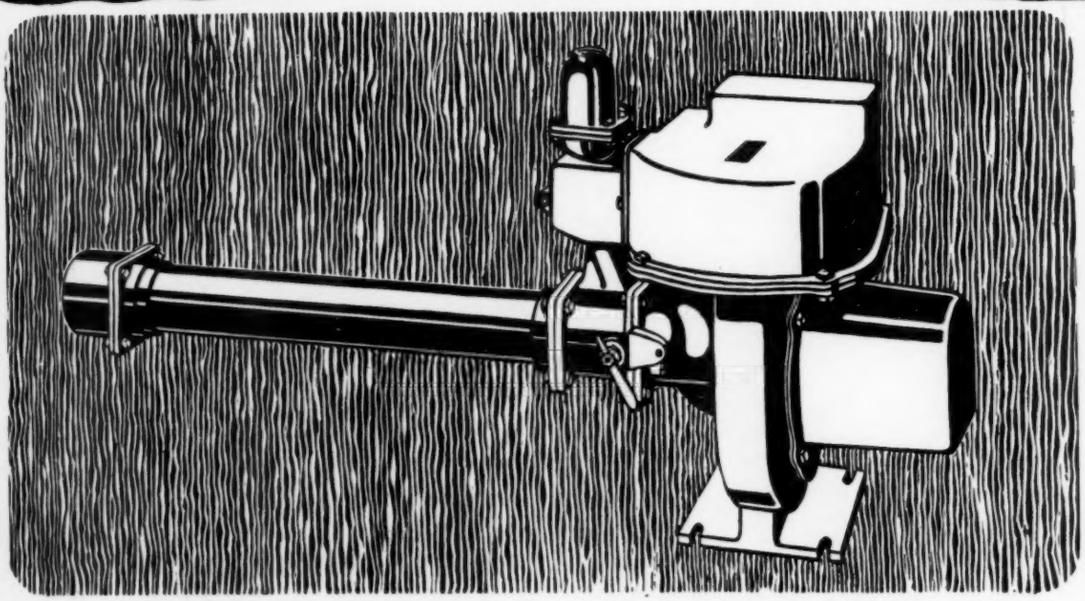
Gas Oven Thermometer

PRECISION THERMOMETER & INSTRUMENT CO.

143 Brandywine St. **Philadelphia, Pa.**

BRANCH OFFICES:

Baltimore: Builders' Exchange
Birmingham, Ala.: Haralson Sales Co., Inc.
Chicago: 565 W. Washington Blvd.
Cleveland: Leader News Bldg.
Montreal, Canada: 179 Delorimier Ave.
New York: 30 Church st.
Tampa, Fla.: 314 Citizens' Bank Bldg.
Rochester: 921 Granite Bldg.
St. Louis: 3324 S. Jefferson Ave.
San Francisco: 15 Spear



Gas Will Eventually Replace Coal for Industrial Use—
and
The Wales Industrial Automatic Burner Will Prove Big Aid in Accomplishing It

The wide adaptability of the Wales Industrial Automatic Burner, its absolute safety and the fact that a single control proportioning valve keeps the air and gas in correct ratio whether part way or fully on, all combine to make it the logical burner for gas men to sell—and one that many industrial concerns have been waiting for.

Accurate Automatic Temperature Control

Will Not Back Fire

Single Control for Both Gas and Air

Several burner nozzles can be used from one unit

In addition, several burner nozzles can be used from one unit—a feature that will have large appeal

The uses of this burner are myriad. Its efficiency, convenience and safety are paramount. This winter is the opportune time to start replacing coal with gas. Write for full descriptive information.

The Wales Company Kalamazoo, Mich.

The WALES
INDUSTRIAL AUTOMATIC BURNER

ORIOLE

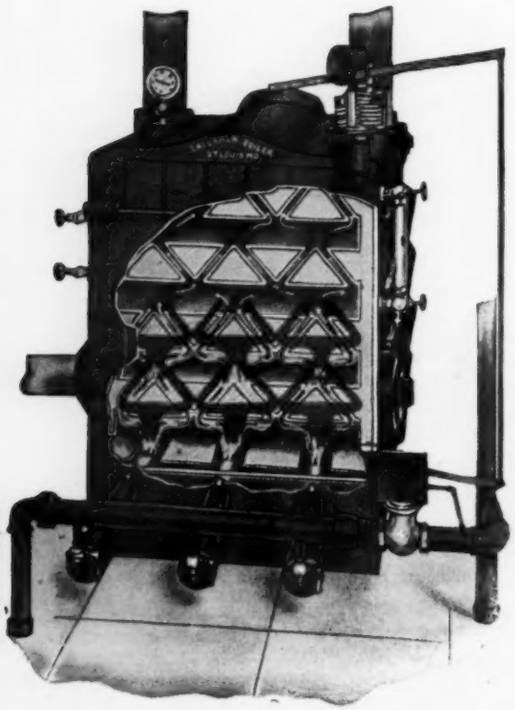
WE announce the opening of our New York Display Room at its new address — 20 East 44th Street — where the complete line of Oriole Gas Ranges and Appliances are on display.

The Baltimore Gas Appliance & Manufacturing Co.

BALTIMORE, MD.

COMPANY MEMBER OF AMERICAN GAS ASSOCIATION

Other Gas Companies Are Doing It!



Send for our booklet and terms and learn how Gallaher Gas-Fired Boilers will increase both Volume Sendout and Profit.

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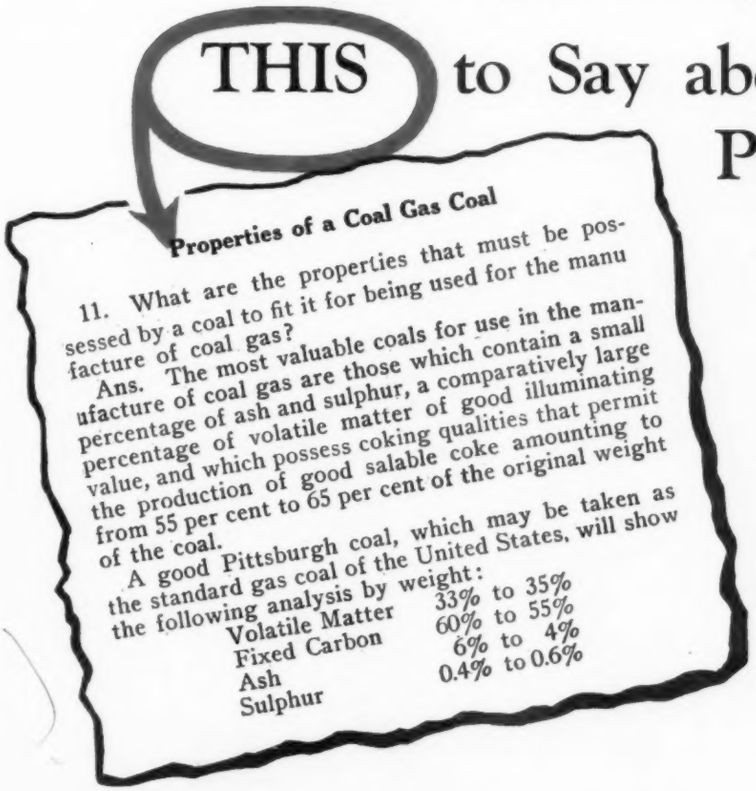

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Compare that Analysis with THIS of our Tildesley Gas Coal

Analysis:

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Fixed Carbon	60.42
Ash	3.74
	100.00
Sulphur	.62
B.T.U. per Pound	14621
Fusion Point of Ash	2786 F.

Made by the Pittsburgh Testing Laboratory.

Have we a good Gas Coal? Well, the Catechism was prepared by experts, and they ought to know.

THE TILDESLEY COAL CO.

H. G. TILDESLEY, President. H. B. FRANCIS, Secretary and Treasurer.

General Offices — INGALLS BUILDING — Cincinnati, Ohio.

Branch Offices—Dayton, Ohio—Springfield, Ohio—Owosso, Michigan.

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NO matter what your requirements are in the gas cock line we can fill them.

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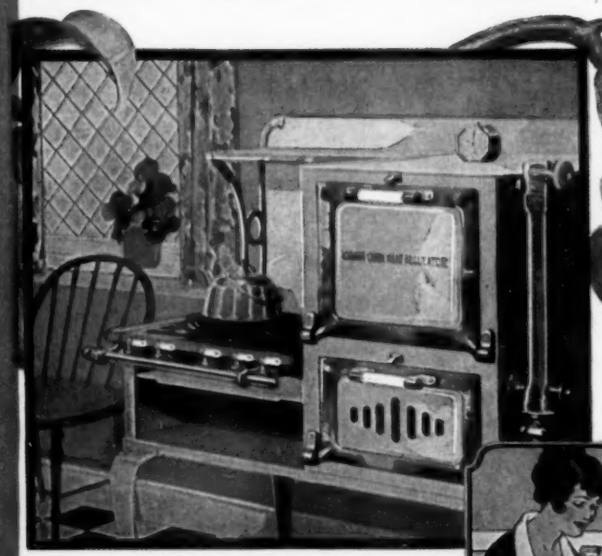
Without Competition

THE Lorain Oven Heat Regulator was the *first* successful attempt to furnish the housewife with a simple device to measure and automatically control the heat of the gas range oven — thereby insuring perfect baking results, every time. The Lorain Regulator was invented by American Stove Company and is the *only* device of its kind made entirely by the manufacturer of the stoves into which it is built. It is the *only* oven heat regulator used exclusively by a single manufacturer. It has been advertised nationally for five years — thirty well-known publications being used at the present time with an aggregate circulation of 15,312,654 copies per issue. Lorain has seen hard service for nearly ten years, and is now being used in *more* homes, schools, churches, hospitals, testing kitchens, etc., than all other makes of heat-regulated gas ranges combined. The Lorain Oven Heat Regulator is *unconditionally* guaranteed by American Stove Company, World's largest manufacturers of Gas Ranges.



EXPLANATION *(1) With the Lorain Oven Canning Method you prepare the fruit in the usual manner. (2) Then you pack it in sterilized jars. Fill the jars with boiling water or syrup. Put them in the oven. Set the Red Wheel at the temperature recommended in the Lorain Oven Canning Chart. (3) No attention need be given the fruit during the sterilization process. You can sweep, sew, read or dust. (4) Then you remove jars from the oven, tighten lids and invert the jars. (5) Your canning is done—natural in color, firm and full-formed, and as delicious as if freshly picked. The illustrations on this page are from the June advertisements in the Delineator and Designer Magazines.*

1

2

3

4

5

Gas Ranges that Sell in Summer

1924 will be the fourth year that American Stove Company has given nation-wide publicity to the Lorain Oven Method of Home Canning. This unique canning-process, made possible by the Lorain Oven Heat Regulator, is far superior to all other methods.

The 1924 campaign will extend over a period of three months—June, July, August—low months in the sale of most cooking appliances—but high months for Dealers that sell Lorain-equipped Gas Ranges.

During June, July and August the Lorain Oven Canning Method will be advertised in twelve national publications having a total circulation of nearly twenty millions during this three-month period. Many of the advertisements appear in four colors.

For "tie-up" Lorain Dealers are offered a full assortment of free sales-helps, including a magnificent window trim; a liberal supply of the Lorain Oven Canning Chart, a treatise on Oven Canning which is in great demand by housewives everywhere; and mats of complete newspaper advertisements.

Any dealer that will put his shoulder to the wheel can take any one of the six famous makes of Lorain-equipped Gas Ranges and build up an exceptionally profitable stove business during the supposedly dull months of summer.

The proof of this statement is the fact that thousands of Lorain Dealers have accomplished this *very* thing for three successive seasons. You can do it, too!

AMERICAN STOVE CO., 829 Chouteau Ave., St. Louis, Mo.
Largest Makers of Gas Ranges in the World

We manufacture coal stoves and the celebrated Lorain High Speed Oil Burner Cook Stoves for use where gas is not available, but the Lorain Regulator cannot be used on these.

LORAIN
OVEN HEAT REGULATOR

These famous Gas Stoves are equipped with the Lorain Oven Heat Regulator:

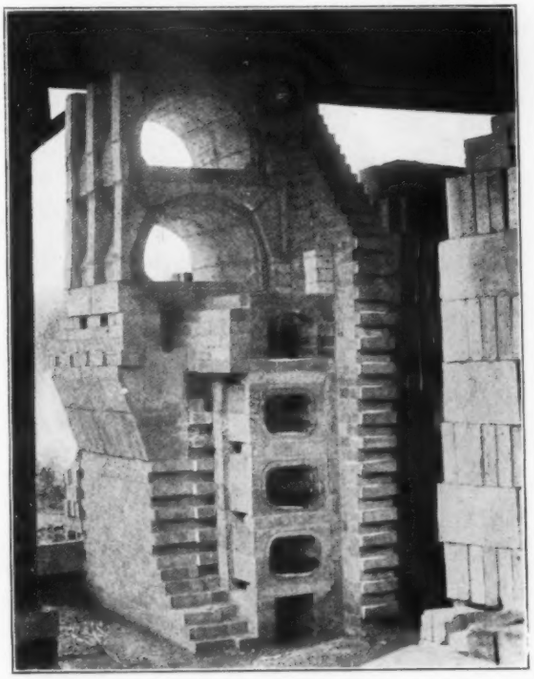
Quick Meal
Quick Meal Stove Company Div., St. Louis, Mo.
Reliable
Reliable Stove Company Div., Cleveland, Ohio
Clark Jewel
George M. Clark & Co. Div., Chicago, Illinois
Dangler
Dangler Stove Company Div., Cleveland, Ohio
Direct Action
National Stove Company Div., Lorain, Ohio
New Process
New Process Stove Co. Div., Cleveland, Ohio

Anything in Fire Clay

We design and build complete Gas Plants.

Coal Gas Benches of all types and designs.

Refilling Work, Clay or Silica.

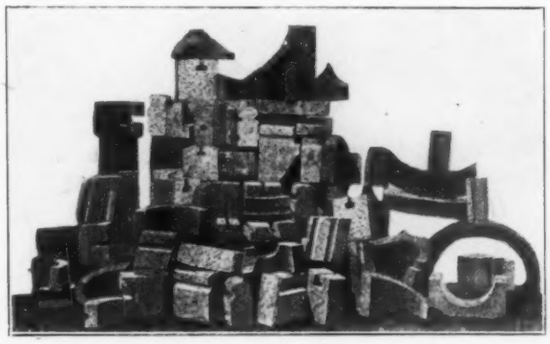


Photograph of a half section of our Recuperator and Furnace Arch. Entire weight of retorts is being carried on furnace and recuperator walls. Note absence of furnace arch key and two-piece construction of recuperators.

Bench Iron, Industrial Furnaces.

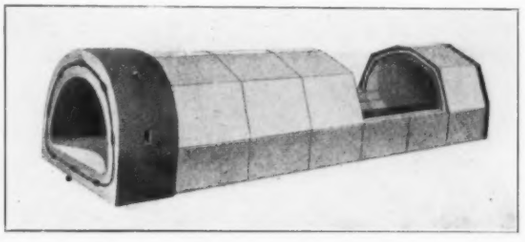
High Grade "DIAMOND" Brick and Shapes for all purposes.

A few of the many special shapes we make:



"THERMO" RETORT CEMENT
"READY FOR USE"

For patching Hot Retorts, Furnace Linings, etc. Used for many years with very satisfactory results.

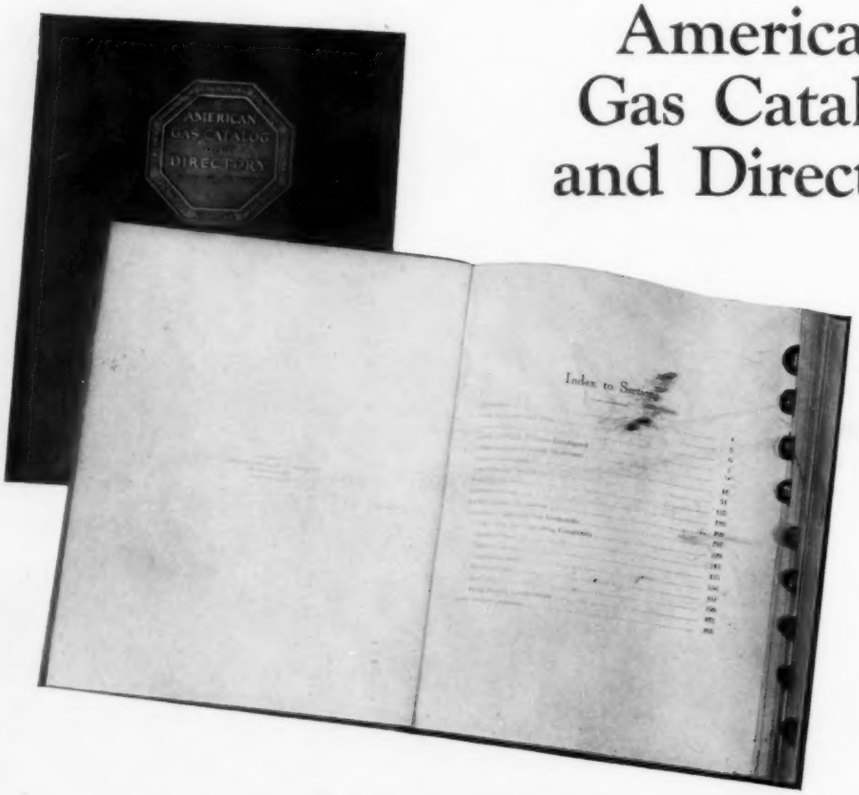


MISSOURI FIRE BRICK CO.

High Grade FIRE CLAY and SILICA Products

SECURITY BUILDING **ST. LOUIS, MO.**

American Gas Catalog and Directory



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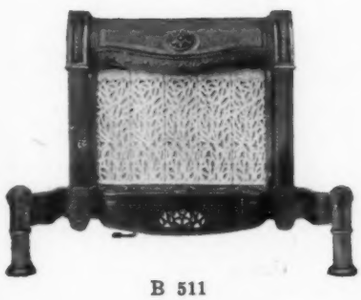
Name .....
Street No .....
City....., State.....

A 527

Beauty That Speeds Up Sales

B 507



B 511

Everything being equal, a woman will buy the article that appeals most to her sense of beauty.

That is why dealers who sell Kennedy Radiant Heaters have found their beauty of design and finish one of their greatest sales assets.

Kennedy Radiant Heaters are quiet, substantial and refined in appearance. They add to the beauty of the finest room. They look like a substantial part of the fireplace—not a cheap addition to it.

Back of this beauty you have a real story of superior efficiency which will appeal to every man or woman interested in economy and comfort.

The open sheet flame of the Kennedy Radiant Heater not only gives a rich, beautiful incandescent glow, and a maximum of radiant heat energy, but a safety that means much to the woman who is jealous of the health and happiness of her family.

Would you like to know more about the new Kennedy line? Write today for description, illustrations, prices and discounts.

RADIANT HEAT CORPORATION OF AMERICA

126 Eleventh Avenue **New York City**

DISTRIBUTORS

NEW ENGLAND STATES
Eastern Service Company
131 State Street Boston, Mass.

MIDDLE WESTERN STATES
Central Sales Corporation
1500 Consumers Bldg. Chicago, Ill.

SOUTHERN STATES
Southern Industrial Engineering Co., Inc.
American Trust Bldg. Birmingham, Ala.

SOUTHWESTERN STATES
R. W. Hoey Sales Co., Inc.
1318 Main Street Kansas City, Mo.

PACIFIC COAST STATES
The T. G. Arrowsmith Company
135 New Montgomery Street
San Francisco, California

KENNEDY
RADIANT HEATER

HIGH GRADE INSTRUMENTS
for the
GAS INDUSTRY

Varnish Kettle Thermometer
Cat. No. 321
36" Stem

Precision means Accuracy.
Accuracy demands high grade material to achieve its results.
Temperature Instruments must be accurate to be of full value.
Our instruments are high grade and accurate and our name is the Precision Thermometer and Instrument Co.
For high grade, accurate precise instruments, come to us.

Thermometers:
For Calorimeters, For the Gas Laboratory, For Distillation, for Gas Ovens, For Pipe Lines, For Stills and Retorts, For Road Materials, For the Field, For All Purposes.

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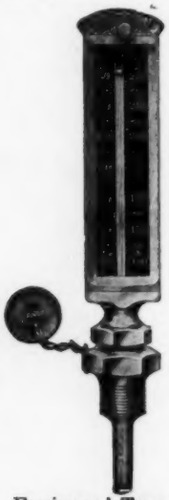

Engineers' Type Thermometer
Cat. No. 331

Vacuum Gauge
Cat. No. 395

Gas Oven Thermometer
Cat. No. 381

PRECISION THERMOMETER & INSTRUMENT CO.

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Montreal, Canada: 179 Delorimier Ave.
New York: 30 Church st.
Tampa, Fla.: 314 Citizens' Bank Bldg.
Los Angeles: 639 S. San Pedro St.
Rochester, 943 Granite Bldg.
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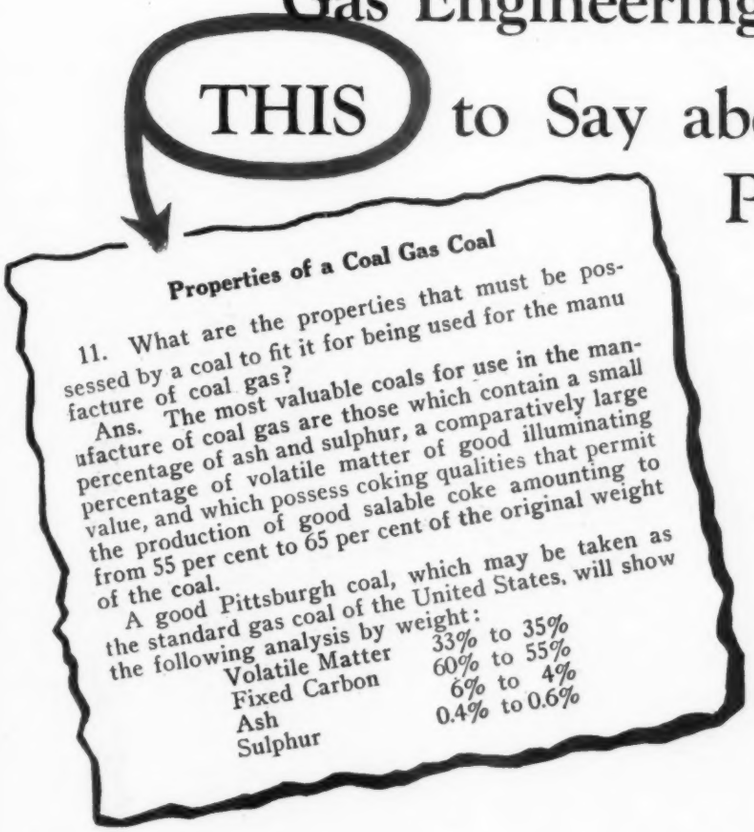

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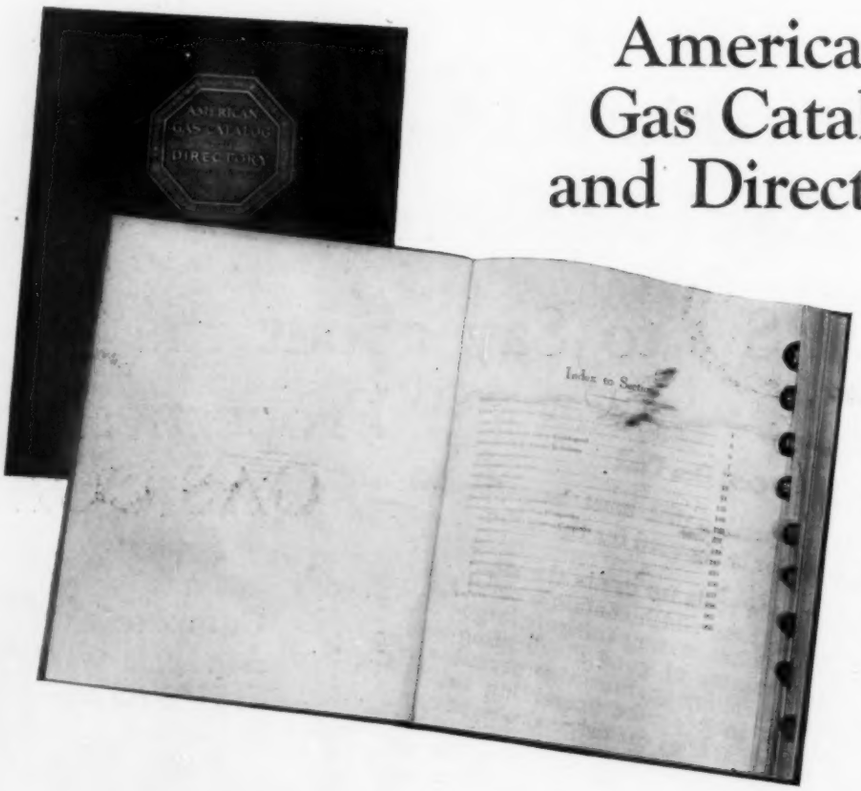

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Street No .....
City....., State.....

"Superior" Superiors

USERS of the Superior Meter pronounce it a true "worry eliminator". This meter embodies all the well-known durable features of the regulation gas meter with the "Superior" refinements added.

One of these is the "Superior" diaphragm. The diaphragm is the life of the meter. We are especially proud of the diaphragms in Superior Meters. They are made of the finest quality New Zealand sheepskin, oiled with a special combination of animal and sperm oils. Their long life under all conditions is remarkable.

Another is the bronze drop-forged side pipes, especially durable to stand the strain of connections and location; also eliminating sand holes and all danger of leaks from that source.

The Superior Meter

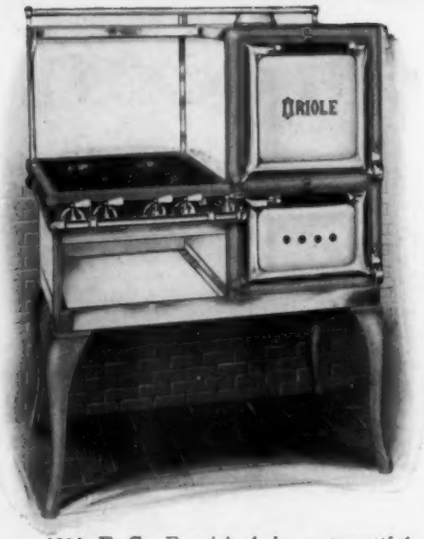
A and B Types
All capacities.

SUPERIOR METER CO.
Bush Terminal Bldg. No. 20
BROOKLYN, N. Y.

C. B. BABCOCK CO., Pacific Coast Representatives
768 Mission St., San Francisco, Cal.

Superior—All That the Name Implies

Medium-Priced Ranges of Distinction



4614 E G—Furnished in a beautiful Gray and White Porcelain Enamel. Equipped with Black Enamel Open Top Grates and Wilder Linings throughout. Length over all 37" (Right or left oven).

50 D E—Furnished with or without Splasher. Nickel Manifold. All other parts finished in beautiful Black Satin Japan. No end shelf. No simmering burner. Length over all 42" (Right or left oven).

ORIOLE GAS RANGES

ANY housewife could well be proud to have either one of these two ranges in her kitchen. They are neat and trim in appearance, compactly designed for utmost convenience and utilization of space and expertly constructed and finished. In fact, they are ranges of quality and distinction moderately priced.

In demonstrating them to your prospects, call their attention to the fact that all full enamel Oriole ranges are lined with Wilder metal. Other types may be so equipped if desired.

Demonstrate how easily the door springs, both top and bottom, can be replaced and adjusted.

Then tell of the air-mixer which is made of cast-iron throughout and does not get set or "freeze" as is the case when sheet steel is used.

Another feature is the ventilated flue collar which prevents back draft.

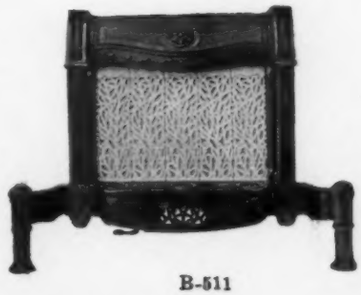
But then—there is a long and interesting story of real sales value you can tell about these ranges to every prospect. Ask us for it.

The Baltimore Gas Appliance & Manufacturing Co.

BALTIMORE, MD. NEW YORK SHOW ROOM: 20 EAST 44TH STREET

This Burner Has Changed The Radiant Heater Situation

A-541



B-511

EVERYWHERE, dealers and users alike, have acclaimed the Kennedy Burner as the greatest advance in radiant heater design that has ever been produced.

While forming a continuous series that produces an open sheet flame clear across the radiating surface of the heater, it is really composed of a series of units, each one of which can be quickly removed, cleaned, and replaced whenever necessary.

The open sheet flame thus produced gives a maximum of radiant heat energy, a beautiful incandescence, and a complete combustion which burns every particle of gas and air. Its safety makes an immediate appeal to every woman who has the health of her family in mind.

This is but one of the many points of superiority which mark the design of Kennedy Radiant Heaters. You can sell your customers much easier when you point out the meaning of the Kennedy Burner, in terms of greater economy, greater heating efficiency, and greater safety.

Add to this the substantial construction and harmonious beauty of design in our various styles, and you have the reason why so many dealers are building a bigger, more profitable business with Kennedy Radiant Heaters. Write for complete details of our Series A, B and C Heaters, and how we are prepared to co-operate with you in building up your sales.

RADIANT HEAT CORPORATION OF AMERICA

126 Eleventh Avenue **New York City**

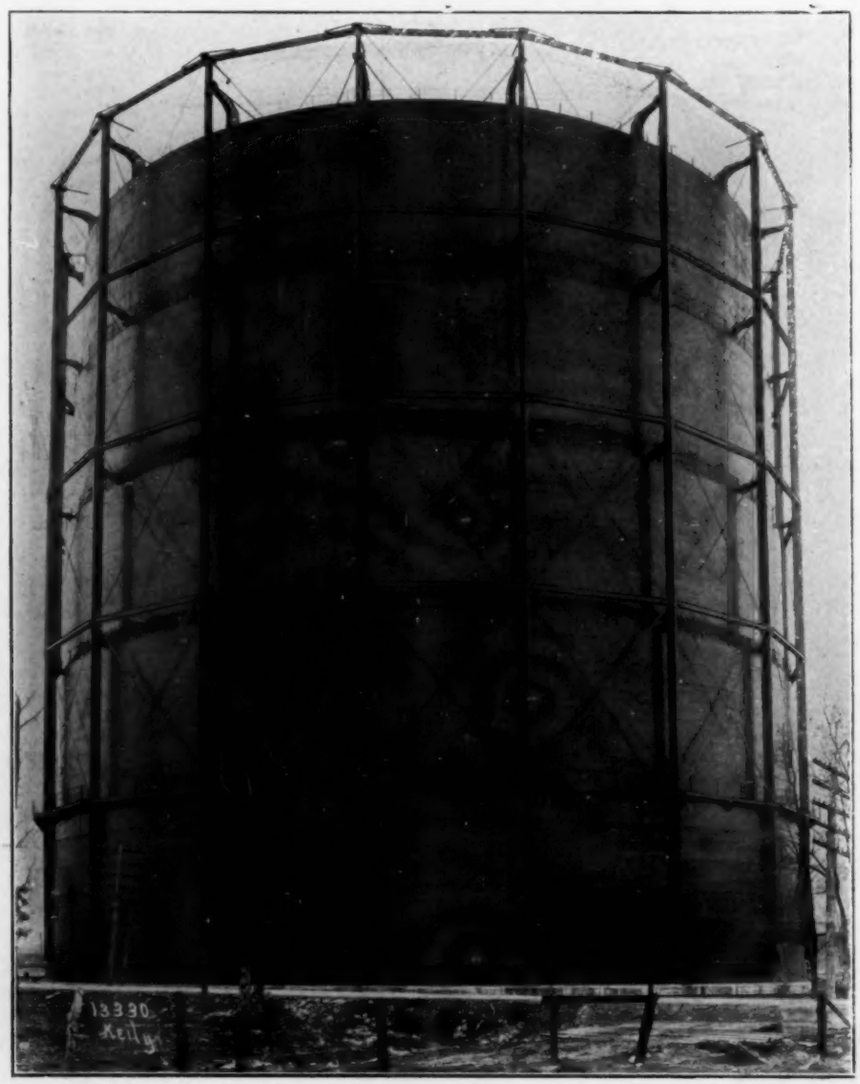
KENNEDY RADIANT HEATER

ABILITY TO SERVE

3,000,000 cu. ft. Capacity Gas Holder

ERECTED 105 WORKING DAYS

For the Alabama By-Products Company
Birmingham, Ala.



Built by

THE STACEY BROS. GAS CONSTRUCTION CO.

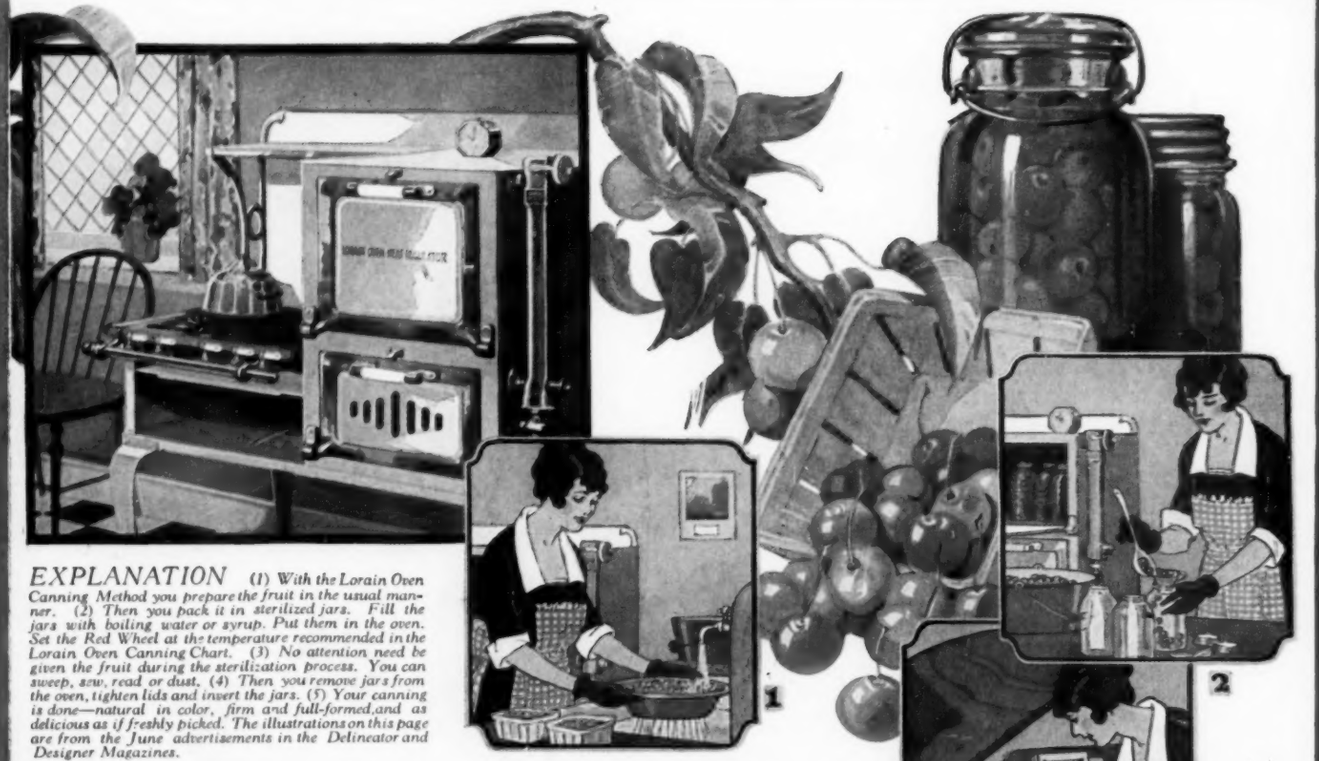
CINCINNATI, OHIO

JAMES E. STACEY, Pres. ANDREW J. STACEY, Vice-Pres. WILLIAM A. MILLER, Chief Eng.
ARTHUR A. POPE, Sec. and Treas. WAYNE STACEY, Gen. Sales Mgr.

NEW YORK OFFICE: 350 MADISON AVENUE P. C. RODGERS, MGR.
Tel. Vanderbilt 7219

Without Competition

THE Lorain Oven Heat Regulator was the *first* successful attempt to furnish the housewife with a simple device to measure and automatically control the heat of the gas range oven — thereby insuring perfect baking results, every time. The Lorain Regulator was invented by American Stove Company and is the *only* device of its kind made entirely by the manufacturer of the stoves into which it is built. It is the *only* oven heat regulator used exclusively by a single manufacturer. It has been advertised nationally for five years — thirty well-known publications being used at the present time with an aggregate circulation of 15,312,654 copies per issue. Lorain has seen hard service for nearly ten years, and is now being used in *more* homes, schools, churches, hospitals, testing kitchens, etc., than all other makes of heat-regulated gas ranges combined. The Lorain Oven Heat Regulator is *unconditionally* guaranteed by American Stove Company, World's largest manufacturers of Gas Ranges.



EXPLANATION (1) With the Lorain Oven Canning Method you prepare the fruit in the usual manner. (2) Then you pack it in sterilized jars. Fill the jars with boiling water or syrup. Put them in the oven. Set the Red Wheel at the temperature recommended in the Lorain Oven Canning Chart. (3) No attention need be given the fruit during the sterilization process. You can sweep, sew, read or dust. (4) Then you remove jars from the oven, tighten lids and invert the jars. (5) Your canning is done—natural in color, firm and full-formed, and as delicious as if freshly picked. The illustrations on this page are from the June advertisements in the Delineator and Designer Magazines.

Gas Ranges that Sell in Summer

1924 will be the fourth year that American Stove Company has given nation-wide publicity to the Lorain Oven Method of Home Canning. This unique canning-process, made possible by the Lorain Oven Heat Regulator, is far superior to all other methods.

The 1924 campaign will extend over a period of three months—June, July, August—low months in the sale of most cooking appliances—but high months for Dealers that sell Lorain-equipped Gas Ranges.

During June, July and August the Lorain Oven Canning Method will be advertised in twelve national publications having a total circulation of nearly twenty millions during this three-month period. Many of the advertisements appear in four colors.

For "tie-up" Lorain Dealers are offered a full assortment of free sales-helps, including a magnificent window trim; a liberal supply of the Lorain Oven Canning Chart, a treatise on Oven Canning which is in great demand by housewives everywhere; and mats of complete newspaper advertisements.

Any dealer that will put his shoulder to the wheel can take any one of the six famous makes of Lorain-equipped Gas Ranges and build up an exceptionally profitable stove business during the supposedly dull months of summer.

The proof of this statement is the fact that thousands of Lorain Dealers have accomplished this *very* thing for three successive seasons. You can do it, too!

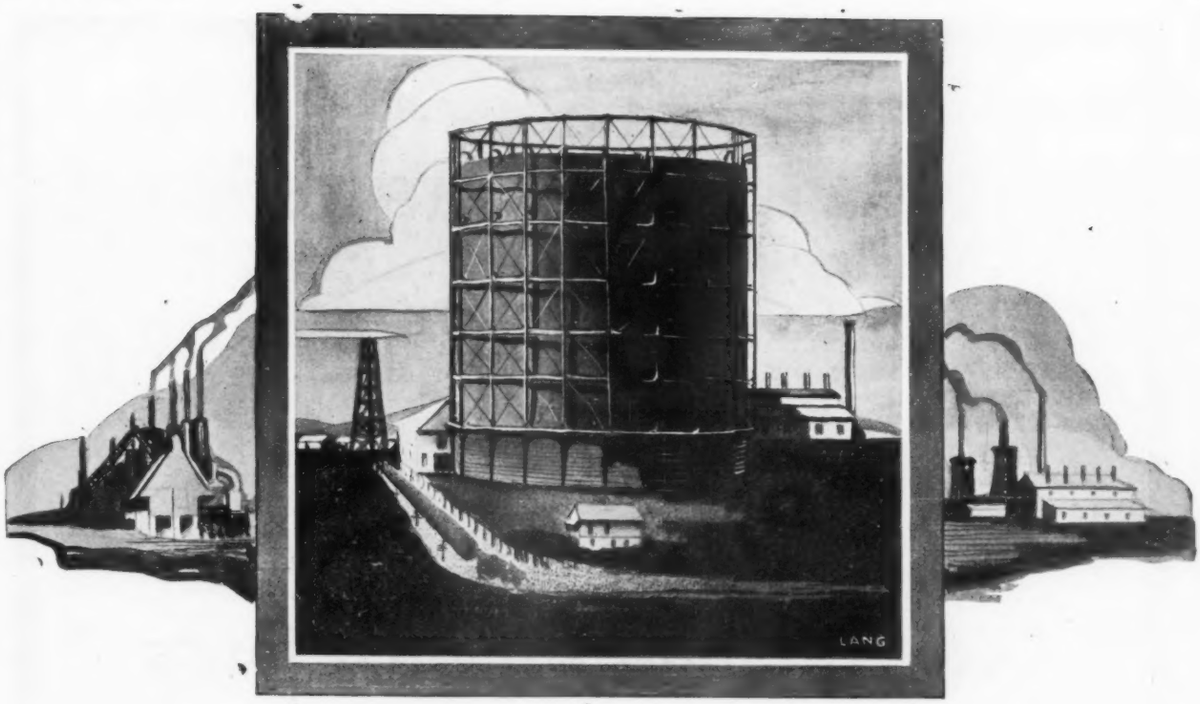
AMERICAN STOVE CO., 829 Chouteau Ave., St. Louis, Mo.
Largest Makers of Gas Ranges in the World

We manufacture coal stoves and the celebrated Lorain High Speed Oil Burner Cook Stoves for use where gas is not available, but the Lorain Regulator cannot be used on these.

LORAIN
OVEN HEAT REGULATOR

These famous Gas Stoves are equipped with the Lorain Oven Heat Regulator:

Quick Meal
Quick Meal Stove Company Div., St. Louis, Mo.
Reliable
Reliable Stove Company Div., Cleveland, Ohio
Clark Jewel
George M. Clark & Co. Div., Chicago, Illinois
Dangler
Dangler Stove Company Div., Cleveland, Ohio
Direct Action
National Stove Company Div., Lorain, Ohio
New Process
New Process Stove Co. Div., Cleveland, Ohio



GAS HOLDERS AND TANKS

Washing, Condensing, and Purifying Apparatus

Valves - Bench Iron Work

General Line of Plate and Structural Steel Work

THE STACEY MANUFACTURING Co

J. FRANK STACEY, Pres. and Gen. Mgr. **EDW. J. BAECHLE, Secy. and Treas.**
THOS. C. RANSHAW, Vice-Pres.

CINCINNATI, OHIO

If you see it in an advertisement—it's so!

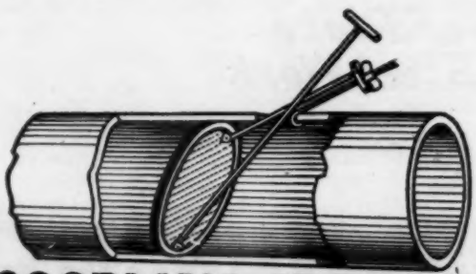
The Parker-Russell Mining & Manufacturing Co.
La Clede Gas Bldg.
St. Louis

Builders of Complete Coal Carbonization Plants

Silica and Fire Clay Retorts and Settings

Street Department Necessities

GOODMAN STOPPERS



GOODMAN STOPPER

When shutting off street mains the SAFEST and SUREST WAY is to use a Goodman Stopper. Once inserted it is like a plug.

DEPENDABLE GAS MAIN BAGS

Built in Three Types

TYPE A—Invisible Seam or Seamless Bag.
TYPE B—Reinforced Seams, heavier and stronger than Type A.
TYPE C—Canvas Covered Bags for use in Mains coated with Tar or Oil.
Sold subject to your inspection and approval
When ordering, specify Type wanted

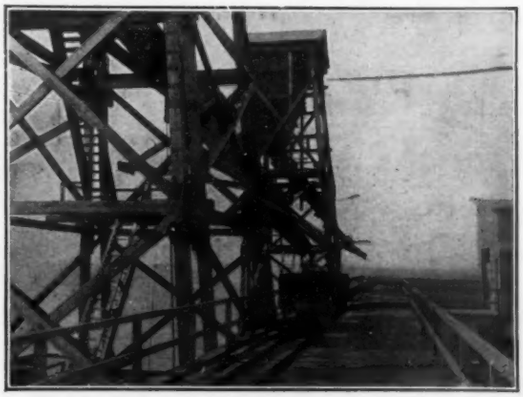
Test Main Plugs, Service Plugs, Wooden Plugs, Asbestos Joint Runners, Lead Melting Furnaces, oil and coke burning, Pressure Gauges, etc., carried in stock.

SAFETY GAS MAIN STOPPER CO.

523 Atlantic Avenue Brooklyn, N. Y.

Pacific Coast Representative:
C. B. Babcock Company, 768 Mission Street, San Francisco, Cal.

GAS--"The Breath of the Devil"



The above illustration shows how coal is unloaded at the waterfront, in a Southern City by means of a Hunt Tub Rig, and transported by Hunt Motor Cars to storage bins.

These cars are used where material is to be distributed in any system of closed or open storage where tracks can be laid. They are equipped with either one or two motors and overhead or third rail collectors.

They are especially adapted to handling coarse or abrasive material. Car bodies are built of wood, steel lined or all steel and of a design best fitted to meet existing conditions. Catalogue 22-1-J gives full details.

THIS was the characterization given to this indispensable servant of man, by a woman, in the embryonic period of gas in New York City.

In an early issue of the American Gas Light Journal, there appears this paragraph:—

> "A lady resident, within the lamp and watch district of New York City, steadily refuses to have the Manhattan gas inserted into her house, because, she says, it is the breath of the devil."

Compared with the voluminous sendout that has resulted—even in this one city alone—from that day to this, his Satanic Majesty should have either blown himself out by this time, or else he has gotten his "second wind." However, very few shared the poor old lady's fears. And today, what housewife would bar gas from her home?

This incident is indicative of the skepticism that greets most new inventions. The telephone, the telegraph, radio, airships, are others that have suffered ridicule—and in some cases more than ridicule—but which now form part of the national life. The public is slow to accept innovations.

Over half a century ago the gas executive was content to handle his coal, coke and ashes by wheelbarrow, brawn and muscle. All day long the laborers trundled tons of coal in this slow, laborious and costly manner, until C. W. Hunt, seeing profits eaten up by this inefficiency, designed and built his coal, coke and ashes handling machinery.

Since then, Hunt Cost-Cutting Equipment has steadily won its way into the plants that have coal handling and other bulk material handling problems and which seek to reduce the cost on these operations. The gas fraternity especially has given it an exceedingly warm welcome, as evidenced by the numerous installations here and abroad.

Let Hunt Engineers in this New Year of 1924 help you plan a system for handling your coal, coke and ashes, that will bring profit to your plant by reducing your production costs; their half century experience and accumulated data amply qualify them to advise judiciously.

WE DESIGN AND BUILD:
Industrial Railways, Automatic Railways, Cable Railways, Cars, Tracks, Switches, Motor Cars, Scales, Conveyors, Skip Hoists, Electric Vibrating Screens, Cut-off Valves, or Gates, Weighing and Measuring Devices, Coal Crackers, "Stevedore" Transmission Rope and Hoisting Rope.

C. W. HUNT COMPANY, Inc.
West New Brighton, New York City

New York Office—Whitehall Building

PHILLIPS, LANG & CO., Inc.,
431 So. Dearborn St., Chicago, Ill.

ERNEST F. LEARNED,
141 Milk St., Boston 9, Mass.

LOGAN COUNTY COAL CORPORATION

SUCCESSORS TO

AMHERST FUEL COMPANY

PRODUCERS

HIGH GRADE GAS COAL

MINES LOCATED IN

LOGAN COUNTY

WEST VIRGINIA

GENERAL SALES OFFICES

UNION CENTRAL BUILDING

CINCINNATI

Members
American Gas Association
National Association of Purchasing Agents

THE GAS MACHINERY CO.,
CLEVELAND, OHIO.

COAL AND WATER GAS APPARATUS,

BENCHES,
BY-PRODUCT GAS OVENS,
PURIFIERS,
AMMONIA CONCENTRATORS,
TAR EXTRACTORS,
VALVES AND CONNECTIONS,
WASHERS,

COMPLETE GAS PLANTS,

BY-PRODUCT AND SPECIAL MACHINERY.

No 787

Our Advertisements are Worthy of your Undivided Attention.

IN the consideration of your 1924 Main Extension program, remember that we have

a

DISTRIBUTION ENGINEERING DEPARTMENT

constantly engaged on this work.

WITH our experience, personnel, and equipment, we can doubtless save money for you in purchasing and installation; thus assuring the

BEST RETURNS ON THE INVESTMENT

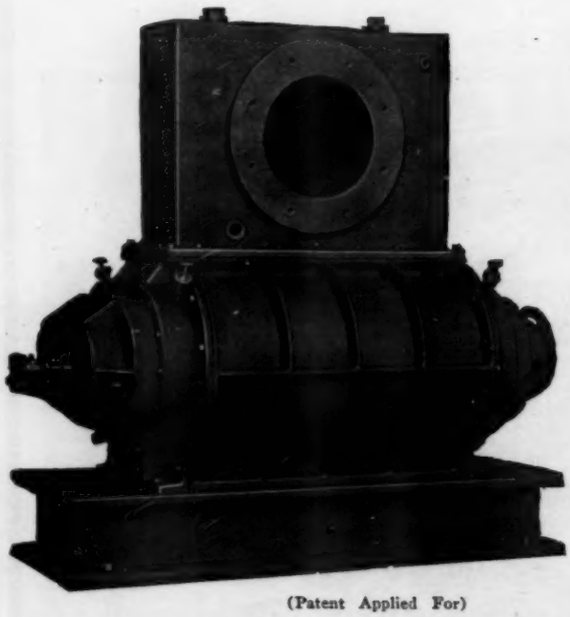
Our printed literature may prove interesting and is yours for the asking

THE U. G. I. CONTRACTING COMPANY

Broad & Arch Sts., Philadelphia

335 Peoples Gas Bldg., Chicago **928 Union Trust Bldg., Pittsburgh**

Accurate Records of Gas Passed!



(Patent Applied For)

The ability of the Rotary Displacement Meter to measure the flow of gas or air is based on the fact that this type of machine displaces a known quantity at each revolution. A counter is furnished which registers the revolutions of the meter. When these revolutions, recorded by the operator, are multiplied by the meter displacement, and to the net volume thus recorded is added the slip of the machine, the result is an accurate record of the amount of gas passed.

Gasmen, mindful of accuracy and dependability in recording plant output, will thoroughly appreciate the Connersville Rotary Displacement Meter because of these features:

Accuracy. Meters in service during several years in various plants, have been carefully checked. Periodic comparisons of several months duration, between these meters and the most accurate of other types, have shown a difference in results of only a small fraction of one per cent.

Low Operating Cost. The flow of the gas in the line causes rotation of the impellers, and the only power used is that necessary to produce the low differential pressure.

Maintenance. With the simple sturdy construction, there are no delicate parts requiring frequent adjustment and replacement.

A demonstration in your own plant will prove its actual value. The above apparatus is only one of a varied line consisting of

Meters—Pumps—Boosters—Blowers—Exhausters

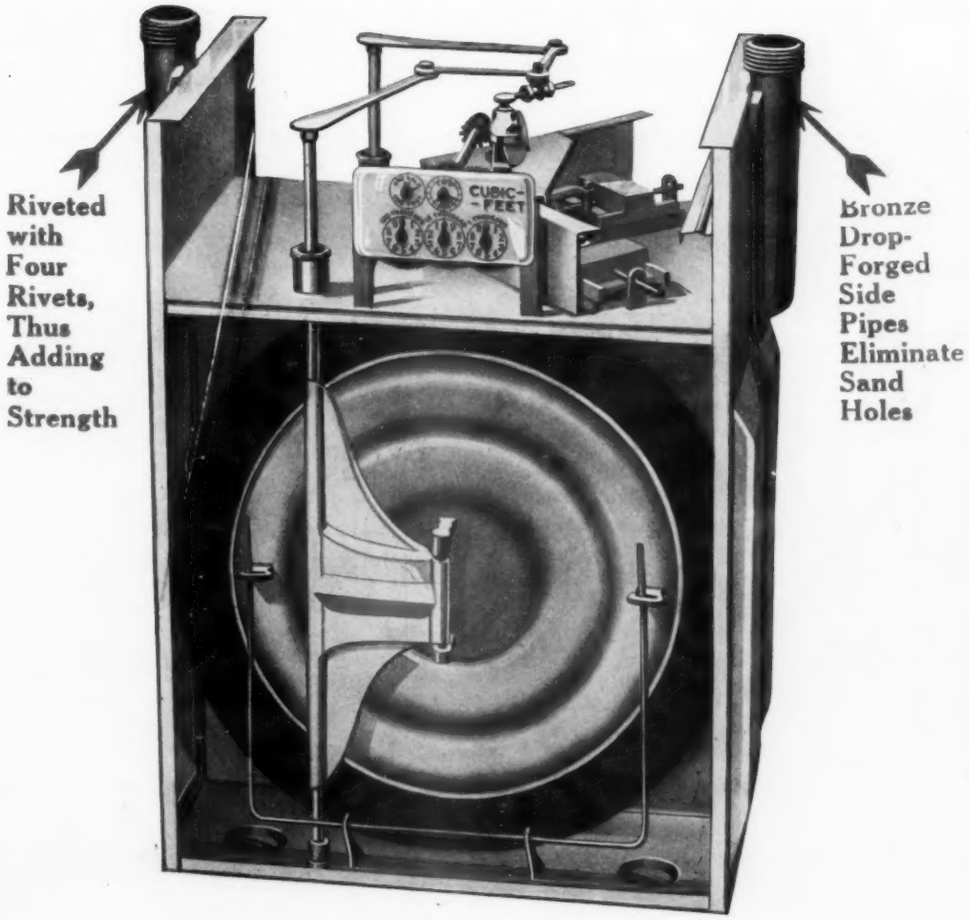
The Connersville Blower Co.

12th St. and Kentucky Ave.
CONNERSVILLE, IND.

114 Liberty St.
NEW YORK

53 W. Jackson Blvd.
CHICAGO

Connersville



Superior" is no Misnomer

"Superior" in Construction. "Superior" in Accuracy.

"Superior" in Service. "Superior" in Long Life.

We have a new feature that is just one more proof of Superior Construction. It is a Bronze Drop-Forged Side Pipe. Doubly Strong—Eliminates Sand Holes and any danger of Leaks. A most improved feature. Just part of our service to you, that's all.

SUPERIOR METER COMPANY
Bush Terminal Building No. 20, Brooklyn, N. Y.

Superior Meters

All that the Name Implies

From the Atlantic to the Pacific, from Canada to the Gulf of Mexico, gas companies believe in Our

ABILITY TO SERVE

This list of holders contracted for and to be built during 1923 demonstrates their faith in our claim

LIST OF HOLDERS FOR 1923

Philadelphia, Pa.	1	1,500,000 cu. ft.	Holder
Duluth, Minn.	1	1,000,000 " "	"
Port Arthur, Texas	2	1,000,000 " "	"
Staten Island, N. Y.	1	1,000,000 " "	"
Charlotte, N. C.	1	500,000 " "	"
Denver, Colo.	1	500,000 " "	"
San Rafael, Cal.	1	500,000 " "	"
Zilwaukee, Mich.	1	500,000 " "	"
Geneva, N. Y.	1	500,000 " "	"
Herkimer, N. Y.	1	500,000 " "	"
Milwaukee, Wis.	1	300,000 " "	"
Jackson, Miss.	1	200,000 " "	"
Putnam, Conn.	1	150,000 " "	"
Mt. Pleasant, Mich.	1	100,000 " "	"
Stroudsburg, Pa.	1	100,000 " "	"
Zilwaukee, Mich.	1	100,000 " "	"
Matoon, Ill.	1	100,000 " "	"
Oswego, N. Y.	1	100,000 " "	"
Frederick, Md.	1	100,000 " "	"
Rawlings, Wyo.	1	100,000 " "	"
Watsonville, Cal.	1	50,000 " "	"
Shelbyville, Ind.	1	50,000 " "	"
Mt. Pleasant, Iowa	1	50,000 " "	"
Idaho Falls, Idaho	1	50,000 " "	"

STACEY BROTHERS GAS CONSTRUCTION CO.

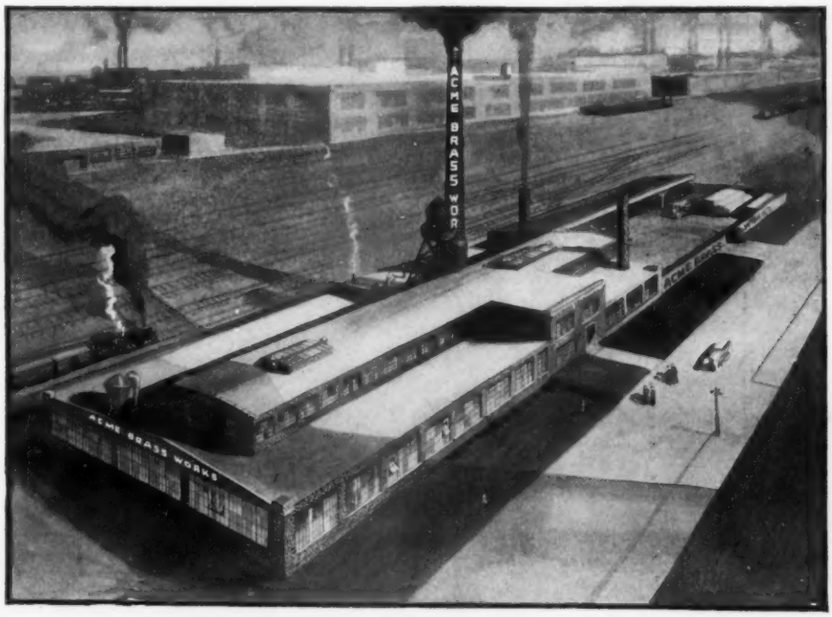
CINCINNATI **OHIO**

Engineers and Builders

James E. Stacey, Pres.; Andrew J. Stacey, Vice-Pres.; W. A. Miller, Chief Engineer; Arthur A. Pope, Sec. & Treas.; Wayne Stacey, Gen. Sales Mgr.

Pacific Coast Representative
C. B. BABCOCK CO.
San Francisco

New England Representative
EASTERN SERVICE CO.
Boston



UNUSUAL Shipping Facilities

IT'S a long way from Detroit, Mich., to lots of places in the United States. But the distance isn't so great when one considers the modern manufacturing facilities contained in our large plant in Detroit, and our facilities for making prompt shipments, being situated, as we are, on the main line railroad. We can ship you any variety of gas cocks for ranges, hot plates, water heaters, etc., in the shortest time at the lowest possible cost. Our facilities for volume production enable us to do this.

No. 203

We manufacture a large variety of styles and sizes, made according to A. G. A. and U. G. I. specifications.

Let us take care of your gas cock requirements!

Acme Brass Works

8211 Collins Avenue and
Belt Line R. R.
DETROIT, MICH.

Lux Material

"Lux Material," introduced to the Gas Industry more than 40 years ago, possesses an exceptionable high absorptive capacity for H_2S. This capacity exists not only in regard to space, but also in regard to time.

Regarding Space:

According to tests, available upon request, "Lux Material" purifies much more gas than the same quantity of any other purifying material.

Regarding time:

We can supply copy of tests by leading Gas Engineers that "Lux Material" effects the purification of the larger quantity in much shorter time.

Conclusion:

The above is of particular importa e to Gas Works which, owing to the making of gas, having greatly increased, are working with a purifying plant of comparatively small capacity.

Let us quote you our price for 1924.

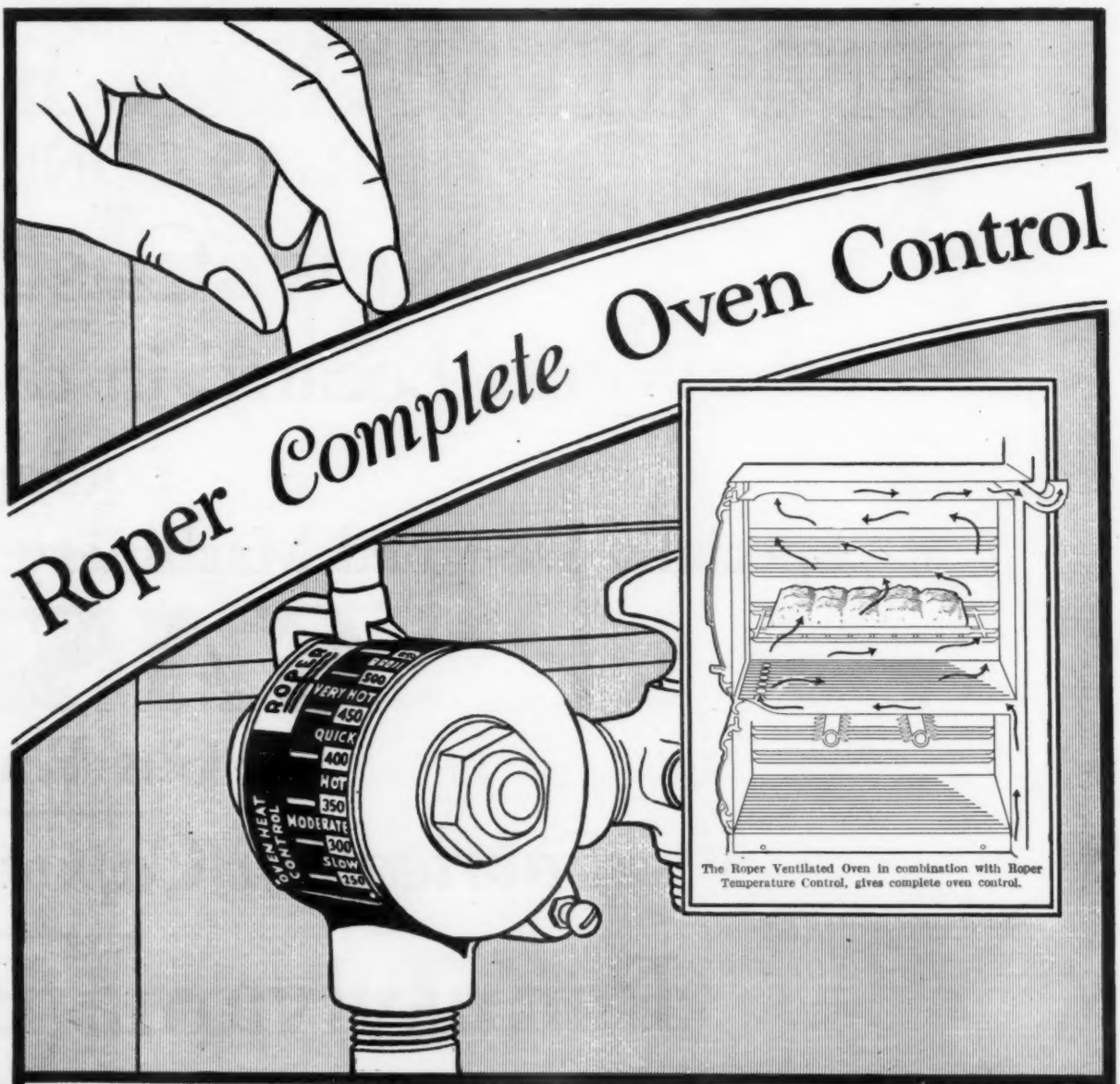
The Alpha-Lux Company

(Incorporated)

192 Front Street New York City

For further details see page 116 of the 1923 Edition
American Gas Catalog and Directory

Roper Complete Oven Control



The Roper Ventilated Oven in combination with Roper Temperature Control, gives complete oven control.

Here's a whale of a merchandising leverage. Any housewife will appreciate when you show her that there's all the difference in the world between Roper complete oven control and ordinary temperature control. Roper temperature (patented) control regulates heat exactly. Roper (patented) ventilated oven distributes that heat exactly. The combination means complete oven control—no burned under or top crusts.

Make the most of this opportunity. Talk, show and demonstrate Roper complete control to every prospect. It's just as easy to sell eight out of ten as two out of ten if you try. But what a difference in your profits. Let's go—we will help you.

GEO. D. ROPER CORPORATION, ROCKFORD, ILL.
Pacific Coast Branch: 768 Mission St. San Francisco, California.

ROPER

TRADE MARK REG. U.S. PAT. OFF. REG. IN CANADA

Be Sure The Roper Purple Line and The Roper Complete Oven Control are on the Gas Range You Sell

PENNSYLVANIA ENG

GAS CONSTRUC

New Castle,

Works Located in the Ce

Equipped w

Specially Designed Machinery for F

GAS H

Gas Plant Eq

Fabrication Capacity 30

Pennsylvania Engi

New Castle, P

E. W. BEADEL, Pres. J. K. FURST Vic

Gas Construct

GEO. H. CRESSLER, Manager-Eng. W. S. GUITTEAU Ge

NEW YORK OFFICE 60

NGINEERING WORKS
RUCTION DIVISION
e, Penna.

Center of the Steel Industry

ec with
or Fabrication and Erection of

HOLDERS

nt Equipment

ty 30,000,000 *lbs. Annually*

ngineering Works
le, Penna.

ST Vice-Pres. C. L. BALDWIN, Sec. & Treas.

ruction Division

AU General Sales Mgr. C. E. NEUDORFER, Superintendent
CH 60 WALL STREET,

WILLIAM W. RANDOLPH, M. E.
CONSULTING ENGINEER

EXECUTIVE OFFICES
Broad Street National Bank Bldg.
12 BROAD ST.
RED BANK, N. J.

WILLIAM E. BARRETT
CONSULTING ENGINEER
Member A. S. M. E.—Member A. G. A.—Member N. G. A. A.
Specializing in
Manufactured and Natural Gas Properties—Design, Construction, Operation, Valuations—Reports for Financing or Rate Making—Combustion, Fuels, Oils, Etc.
56 PINE STREET NEW YORK, N. Y.

LUDLUM ENGINEERING CO.
Consulting — Designing — Supervising
GAS PLANTS
of Every Description
Steam Power Plants
Investigations - - - Appraisals
Office - - - 2 Rector Street
New York, N. Y.

WALTER A. ALLISON
Consulting and Constructing Engineer
Design, construction, supervision of Gas Plant and Distribution System.
Investigations, Appraisals, Rate Structure.
403 WISTER ST., PHILADELPHIA, PENN.

DRESSER COUPLINGS DOMINATE
Dresser Style 38 Couplings combine strength and flexibility; will stand any pressure the pipe can carry, and take care of expansion and contraction.
S. R. DRESSER MFG. COMPANY
BRADFORD, PENNA., U. S. A.

A-B GAS RANGES
With Wilder-Metal Rust-Proof Oven Linings
A-B STOVE COMPANY
BATTLE CREEK, MICHIGAN

FUEL TESTS
In addition to the standard tests embracing proximate analyses and heating values, the LABORATORIES are prepared to undertake special investigations such as the determination of the fusing point of ash, the gas yield and quantitative determinations of ammonia, nitrogen, Coal tar, etc. Our facilities are at your service.
ELECTRICAL TESTING LABORATORIES
80th Street and East End Avenue
New York City

Established 1858 Incorporated 1890
J. H. GAUTIER & CO.
OLIVER W. BIRD, JR., Pres.
Jersey City, N. J.
COAL GAS BENCHES
Silica Retorts and Settings
Clay Gas Retorts Fire Brick
Water Gas Linings, Etc.
Cement—To Suit Specifications

Russell Engineering Company *St. Louis*
Coal Carbonization Plants, Benches, Repairs, Improvements, Extensions, Apparatus

NEW YORK ENGINEERING COMPANY

Builders of

GAS PLANTS

Scrubbers, Condensers, Purifiers, Riveted and Welded Pipe and Specials

Heavy Plate Metal Work a Specialty

Office: 2 Rector St., New York

Works: Yonkers, N. Y.

Fred W. Freese & Co.

ENGINEERS

Financing—Building—Managing and Operating Gas, Electric and Water Properties

Refinancing and Rebuilding Existing Plants

Accounting—Valuations—Appraisals

Rates, Counsel and Commercial

First National Bank Building

Chicago

WILLIAM A. BAEHR ORGANIZATION

ENGINEERS

Specializing in Public Utilities Management, Operation, Construction, Plans, Reports, Valuation, Rates, Public Relations, Accounting, Purchasing. We finance public utility properties and projects.

Illinois Merchants Bank Bldg.

Chicago, Illinois

Byllesby Engineering and Management Corporation

208 S. La Salle Street

Chicago

New York Tacoma

GAS EFFICIENT INDUSTRIAL OIL FURNACES

UNIFORM TEMPERATURE
MAXIMUM OUTPUT
MINIMUM FUEL COST

THE SURFACE COMBUSTION CO.

356 GERARD AVE., BRONX, NEW YORK, N.Y.

PHILADELPHIA - PITTSBURGH - CHICAGO - BALTIMORE

STOKERS

Builders of Mechanical Stokers for 35 years

Sales and Service Offices in All Principal Cities

Address Nearest Office

Westinghouse Electric & Mfg. Co.
So. Philadelphia Works, Philadelphia, Pa.

W WESTINGHOUSE ELECTRIC

Westinghouse

Look at the Advertisements for the Leaders in the Industry.

"Our Men Swear By It"

Writes the head of a Great Concern in referring to the Ridgway Elevator.

You and I know some elevators that all the Elevator "Swearing" is at them.

Especially about quitting time with a Big Shipment to get off and "the blankety, blank thing 'goes' on the bum."

"Enough To Make A Preacher Cuss" as old Mike said when something went wrong and the Elevator refused to go.

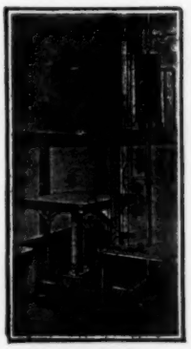
Always remember this in considering elevator equipment:—

Nothing Can Put A Ridgway Elevator Out of Business But the Boiler Blowing Up.

When the old boiler lets go you won't need any other elevator, not just then, dearie.

You are always dead sure to go when you

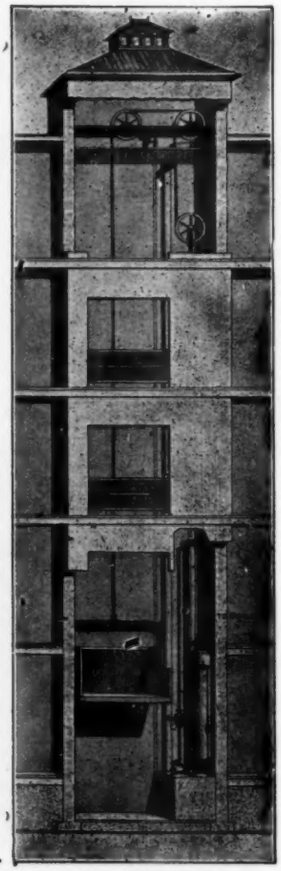
"HOOK 'ER TO THE BILER"



Direct Acting

OVER 3000 IN DAILY USE

Double Geared



CRAIG RIDGWAY & SON CO., Coatesville, Pa.

ELEVATOR MAKERS TO FOLKS WHO KNOW

No. 29 Heating Machine

For continuous Hardening or Annealing; for Hardening Ball Bearings, Detachable Saw Teeth, or for Annealing Brass or any other work not exceeding 2½" greatest measurement.

We Make

Automatic Heat Controllers
Automatic Quenching Tanks
Blowers
Blowpipes or Blow-Torches, Hand and Stand
Boosters, Gas
Brass Melters
Brazing Furnaces and Tables
Burners
Burners for Electric Lamp Bulb Manufacture
Carbonizing Machines
Cyanide Furnaces
Cylindrical Furnaces
Forges
Forges, Glass Bending
Hardening Hammers
Heating Machines
Melting Furnaces
Muffle Furnaces
Oil tempering Furnaces
Oven Furnaces
Plating Furnaces
Rivet Heaters
Soft Metal and Lead Hardening Furnaces
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Sweep Reducing Furnaces
Tempering Plates
Tire Heaters
Tube Heating Furnaces

Let us estimate on your Heat Treating problem. Write today.

American Gas Furnace Co.

Main Office and Works:

1000 Lafayette Street **Elizabeth, N. J.**

FLANGE END

VALVES

We can furnish Valves for working pressures up to 1200 lbs. per sq. in.

Send for Circular 5

***The* LUDLOW**

VALVE MANUFACTURING COMPANY

TROY, N. Y.

New York 82 Gold Street	Boston Oliver Building	Philadelphia Harrison Building
Chicago The Rookery	Pittsburg First Nat. Bank Building	Kansas City R. A. Long Bldg.

When in the Market, consult an advertisement.

The High Cost of Ignorance

THE best posted men are those best fitted to take advantage of opportunities.

Men who fool themselves by thinking they have no time to read their trade papers often fail to get ahead of the crowd.

Bright men, whether born leaders or not, find in their trade papers ideas and information that often help in climbing the ladder of success.

Success has its price. Those willing to pay it become leaders, leaving others to follow.

Many gas men have The American Gas Journal sent to their homes to be read and studied at leisure.

If only one idea or suggestion is received in the course of a year, it well repays the small cost of the subscription.

Ignorance is costly. Every man is the architect of his own fortune.

And yet it costs only about the price of a good cigar each week to have The American Gas Journal on your desk every Monday morning.

Bright men, open to ideas and suggestions, often thus get valuable points.

But you must read The American Gas Journal regularly to fully appreciate its real value to you.

American Gas Journal
53 Park Place
New York City

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Apparatus, Special, for Gas Cleaning.

Apparatus, Special, for Production of Ammonium Sulphate (without Sulphuric Acid).

Apparatus, Special, for Production of Potassium Ferrocyanide.

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Charging and Discharging Machines, Combined.

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Scrubbers, Centrifugal Vertical Type.

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Fast Flexible Turbo Coupling.

B. H. Co.—De Brouwer Type Charging Machines.

De Brouwer Charging and Discharging Machines.

Feld Vertical Centrifugal Scrubbers.

Designed and Built to Suit Your Needs.

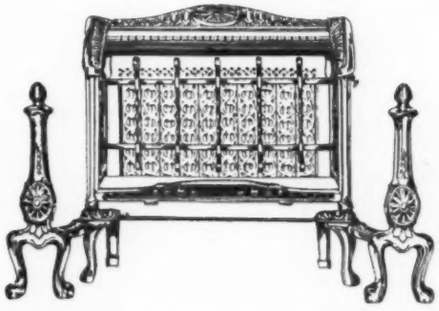
The BARTLETT HAYWARD CO.

Engineers and Founders

BALTIMORE NEW YORK

The Reliable Firms all Advertise.

These Features of Welsbach Heaters Mean Big Sales for You



No. 27 with andirons. Furnished in either oxidized Brass or Black and Verde.

Equipped with ten glowers and self lighter. Can also be furnished without andirons.

Self Lighter

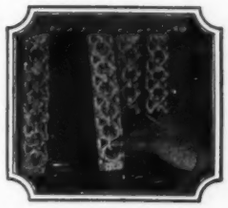
This is an exclusive Welsbach feature which starts a flame without using matches. A fat hot spark is flashed into the header, lighting the gas evenly and smoothly.

Welsbach Gas Heaters have numerous points of superiority which are distinctive to Welsbach design—features which are so valuable that they are producing sales wherever Welsbach Heaters are shown.

The questions people used to ask about gas heaters—"Are they economical?"—"Are they odorless?" are answered once and for all in the efficient performance of these super heaters.

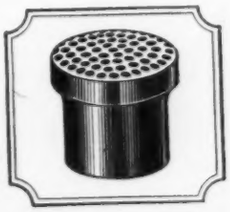
In the design of Welsbach Heaters you will find the very things which discriminating buyers insist upon having in the heaters they buy. Maximum heat production, resulting from an exceptionally efficient burner. Full radiation of heat—produced by metal reflector. Absolute convenience found in eliminating the need for matches and using a pyrophoric self lighter instead. Proper combustion insured by screening the air used, thus keeping all dust and dirt from the burner caps.

The Welsbach line offers a wide choice of attractive models for both portable or fireplace use, in styles and finishes to meet every taste. It is the most practical means of extending the use of gas as an auxiliary heating service among your consumers. Make use of it to increase your sales.



Glowers Kept from Breaking

Note the way Welsbach glowers are set in place. They can't fall out and break, although each glower can easily be removed.



Burner Tips That Don't Clog

Welsbach burner tips have a fireclay top—not one of metal which rusts, corrodes and clogs. Tips are designed for both natural and artificial gas. The illustration shown above is for artificial

Protection from Dust

The wire screen shown over the air intake is another exclusive Welsbach feature. It prevents dust from clogging the burner orifices and insures proper combustion and maximum heating power.

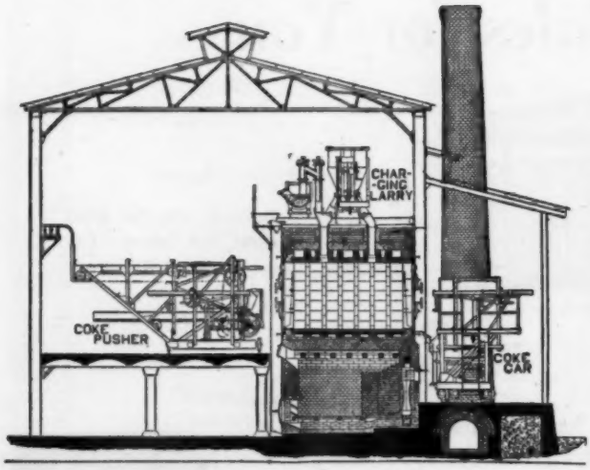
WELSBACH COMPANY

Gloucester New Jersey

Member American Gas Association

Welsbach GAS HEATERS

Advertisements are to be Acted upon.



Improved Horizontal Gas Ovens

ARE YOU CONTEMPLATING MAKING REPAIRS?

Let us show you how on your existing bench foundations a modern up-to-date Oven Plant can be constructed.

Increased production of better grades of gas and coke and other residuals.

Lower operating costs and reduced labor requirements.

All accomplished in your present retort house.

These are convincing arguments for IMPROVED HORIZONTAL GAS OVENS.

The Improved Equipment Company

Engineers & Builders

24 State Street **New York**

Member American Gas Association

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No. 1-A METER

Represent twenty years of progress

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Production and Distribution
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Oil — Gasoline — Gas

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FULTON LOW PRESSURE GOVERNORS

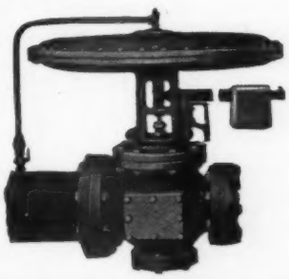
Fulton Low Pressure Governors are designed to reduce the pressure in the service mains as low as may be convenient for safe and economical combustion.

They are generally used to reduce from one to fifty pounds on the high pressure side to a few ounces.

They may be set to reduce to two ounces, or any pressure up to one pound. Any pressure desired is instantly accomplished by changing the weight on the lever.

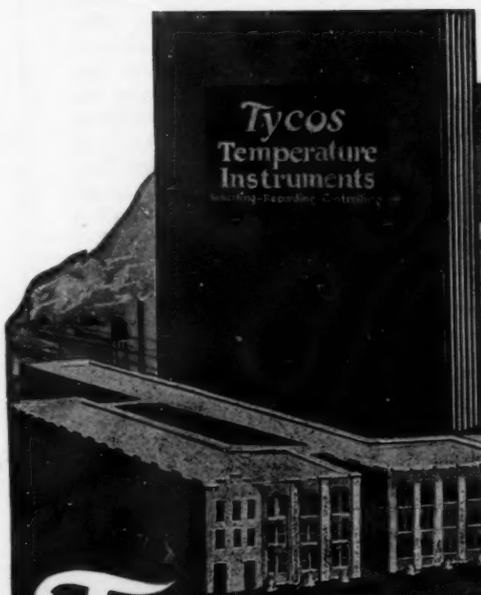
Our improved style of valve makes a perfectly tight joint, thus preventing increase of pressure on low side when the consumption is light or entirely shut off; and, being perfectly balanced, it is not affected by the variations of pressure that may occur on the inlet side.

Made in all sizes up to 24 inches.



Send for our illustrated catalog.

The CHAPLIN-FULTON MANUFACTURING CO.
PITTSBURGH PENNSYLVANIA



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For Testing Foul Main
Gas Producer
Gas Mains
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Volatile Still
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Catalog Part 600 is *Tycos* Gas Plant catalog that tells you just what instruments to apply on these points.

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FOR SALE

Two No. 6½ Roots Blowers; good condition; displacement of 51.2 cu. ft. per revolution; 200 R. P. M. at 1½ pounds; direct connected to a 12 x 12 Troy vertical self-oiling engines. Address The Hyde Park Gas Company, Scranton, Pa.

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Position wanted as works foreman and general foreman of a small plant. Twenty-two years' practical experience in the manufacture and distribution of both coal and water gas and the construction of water gas. At present employed but desire change. Can furnish A1 reference. Address Box 624, care of American Gas Journal, 53 Park Place, New York City.

Executive manager or general superintendent of gas or combined gas and electric or ice property. Successful experience in department of public relations during past seven years. Married and under middle age. Ambitious for new field. Address Box 623, care of American Gas Journal, 53 Park Place, New York City.

UTILIZE YOUR GAS LIQUOR
NO EXTRA LABOR OR OPERATING EXPENSES

Improved AMMONIA Concentrator

About 130 in use. Write to
STROH & OSIUS, Patentees
MICHIGAN AMMONIA WORKS, Detroit, Mich

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WANTED—Manager for medium size water gas plant located near New York City. Give age and full particulars as to education and experience. Address Box 625, care of American Gas Journal, 53 Park Place, New York City.

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A large eastern company, operating a number of gas and electric plants, which is about to increase its all-over sales organization, desires to secure the services of several experienced salesmen to sell gas and electric appliances as well as the solicitation of house wiring contracts. Address Box 628, care of American Gas Journal, 53 Park Place, New York City.

WANTED—Gas bench draughtsmen, experienced men familiar with design. Applications will be treated in confidence. State age, experience and salary desired. Address Russell Engineering Co., 1624 Railway Exchange Bldg., St. Louis, Mo.

WANTED—Position open January 1st for Engineer Salesman acquainted with gas trade, experienced in gas bench work. Address Box 631, American Gas Journal, 53 Park Place, New York City.

Foreman or superintendent for small coal gas plant in Middle West. State age, experience, etc. Address Box 629, care of American Gas Journal, 53 Park place, New York City.

WANTED TO BUY

WANTED—Second-hand gas holders. Capacity 40,000 to 100,000 cu. ft. Give age, type, location, condition and best price. Address Box 630, care of American Gas Journal, 53 Park Place, New York City.

KELLER ADJUSTABLE COKE CRUSHER
Strong, Simple, Durable. Will Crush any Size Desired.
C. M. KELLER
COLUMBUS, IND.
Correspondence Solicited

WANT TO BUY GAS PROPERTIES

Want to purchase several gas properties located in adjacent territories, preferably in the East. Not interested in the electric end. If a company has both gas and electric franchise would only be interested in taking over gas franchise. Can furnish highest financial references. All replies considered confidential.

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To get in touch with the right man to fill the vacancy in your organization, advertise in the Classified Columns of the American Gas Journal.

PURIFYING MATERIAL, — BAGGED OR BULK
Manufacturers of GOVERNORS, APPARATUS and EQUIPMENT
IRON Connelly Iron Sponge and Governor Co. New York, Chicago U.S.A. **SPONGE**

Advertisements are News. Read them!

The Dependable Line

We make Gas Cocks of every description to conform with the A. G. A. and U. G. I. specifications, and to fit any manufacturer's particular requirements.

We make a full line of Gas Hose Cocks and Gas Service Cocks—all sizes and styles. Gas Mixers—Hose Nipples and Mixer Pins. Brass Valves of all kinds.

We also manufacture Malleable Iron Fittings for Stove and Range equipment.

Detroit Brass & Malleable Works
(formerly Detroit Valve & Fittings and Detroit Brass Works)
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New York Office (Metropolitan District Only): 66 Cliff Street
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DIXON'S Silica-Graphite Paint

Recommended for Smokestacks, Water Tanks, Bridges, Standpipes, Boiler & Engine Room Equipment and all other exposed metal or wood work.

Lower Paint Costs

by using a paint that will withstand wear and corrosion for a longer time than if a "cheaper per gallon" paint were used.

Dixon's Silica-Graphite Paint has for many years afforded better protection and complete satisfaction to its many users. Records in various fields tell of service of from five to ten years without repainting.

Such records are possible only because of the lasting quality of the pigment, flake silica-graphite, and the vehicle, boiled linseed oil.

It will pay you to write now for Booklet No. 231 B. which tells why Dixon's is a better paint.

JOSEPH DIXON CRUCIBLE CO.
JERSEY CITY, N. J.
Est. 1827

WATER GAS SETS

1—7′ 6″ U. G. I.
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1—5′ 0″ U. G. I.
1—5′ 0″ N. E. W.
1—4′ 0″ N. E. W.
1—4′ 0″ U. G. I.
1—6,000,000 TAR EXTR.
1—4,000,000 " "
1—1,000,000 " "
1— 500,000 " "
1—No. 4 Root's Exhauster and Engine
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NU-STYL GAS IRONS

The best device on the market for its purpose. Construction is mechanically and scientifically correct. Air supply automatically controlled.

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No burner troubles—non-backfire—odorless. Exclusive features are shock-absorbing spring handles, also our 2 lb. slip-on weight increaser (our 2 in 1 feature.)

Our special asbestos—non-heat absorbing stand is built for WORK and prevents the iron from falling off. Convince yourself with a trial order.

BENSON MANUFACTURING CO.
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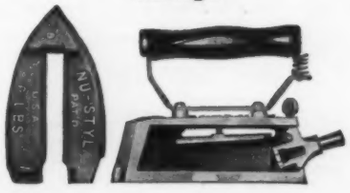

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The First Thing to Look For in a Gas Iron

It isn't appearance—it isn't design—it isn't selling features.

It isn't even the material that it is manufactured of.

It is a little word spelled out in raised letters on the top of the iron, and it spells "IMPERIAL."

Find this and you will be assured of fine appearance, perfect and practical design, a great many easy selling features, and above all the very best of material put into its construction from tubing and steel to handle and burners.

You want a gas iron that will not "flare up" and burn the clothes, that is odorless, that heats the bottom first and not the sides, that will stand the hardest usage and almost never comes back for repairs. Then, by all means choose your gas iron by the little word spelled out on the top of the iron—IMPERIAL. Imperial Gas Irons are sold through the best dealers only.

GENERAL SPECIALTY COMPANY
455 Eleventh Avenue
New York City

The Imperial Gas Iron has been known as the Humphrey Iron to the Gas Industry, and embodies, with additional improvements, all the features which made the latter such an outstanding success.

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Stupakoff Instruments are manufactured under the personal supervision of Mr. S. H. Stupakoff who has spent a lifetime of study and research in the manufacture of high temperature precision instruments. The name Stupakoff is a guarantee of satisfactory workmanship and service under the most severe working conditions. One of the large activities of the Stupakoff organization is the planning and perfecting of temperature indicating and recording instruments to meet unusual conditions.

THE STUPAKOFF LABORATORIES
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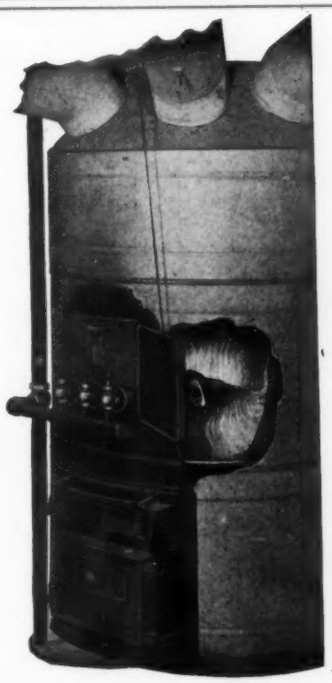
Look for this trade-mark on all instruments

It is well known and stands for quality

THE FRANKLIN *Quick Removable* GAS BURNER SYSTEM

Change from Gas to Coal in One Minute without Tools

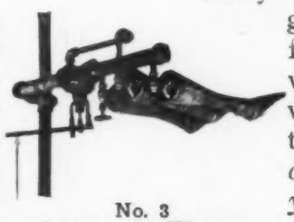


Showing Installation in Warm Air Furnace.

HIGH priced coal is here to stay and your customers are depending on you to show them how they can use gas in their present heating plants and eliminate the dirt and drudgery of firing with coal.

The new improved Franklin Quick Removable Gas Burner System is doing the trick for thousands of satisfied users every day and the wide-awake gas company is making a nice profit selling them.

The Franklin Burner is not a makeshift or a piece of pipe with a flare at one end and a mixer at the other. The Burner is scientifically designed from measurements and calculations of Venturi Tubes approved by The United States Bureau of Standards. The combustion therefore obtained means for economy and high efficiency.



No. 3
System with Thermo Valve and By-Pass

We employ no adjustable gas orifice —neither do we use an adjustable mixer.

The injector spud principle being used to entrain the primary air through the Venturi Tube makes a fool-proof burner with a severe blast effect that is sure hot.

Sell your customers the idea of using gas for heating during the fall and spring months, and it will not be long before many will use gas for heat straight through the winter. *Your output will be doubled when you sell Franklins.*

Write us today about our Special Display Outfit

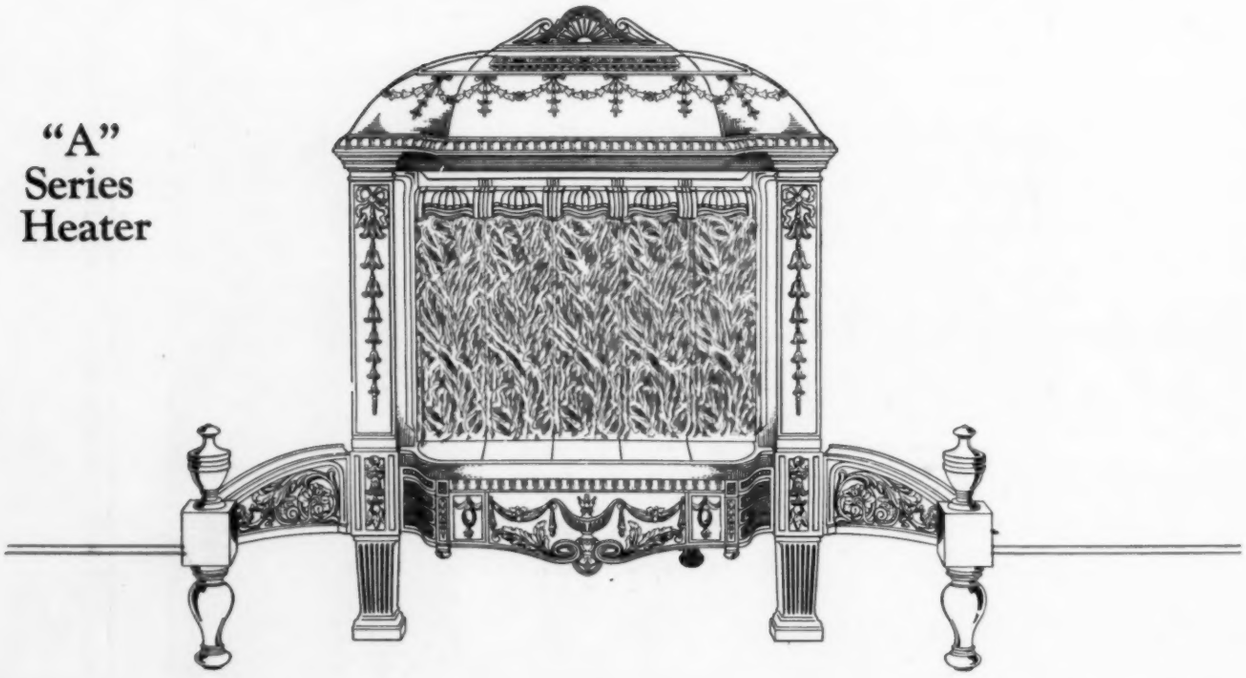
FRANKLIN GAS BURNER MFG. CO.

Vine and Mitchell Avenues

CINCINNATI, OHIO

Sole Patentees and Manufacturers of the FRANKLIN GAS BURNER SYSTEM

"A"
Series
Heater



"The Tiffany of Heaters"

Made in Three Finishes

--Statuary Bronze--
--Antique Brass--
--French Gray--

Distributors

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MIDDLE WESTERN STATES: R. W. Hoey, 1318 Main St., Kansas City, Mo.

SOUTHERN STATES: S. C. Bratton, Southern Industrial Engineering Co., Birmingham, Ala.

Radiant Heat Corp o

126 Eleventh Avenue

Small Display Space Is No Handicap!

Not with the KENNEDY RADIANT HEATER!

One heater and a few extra parts admits of 8 style variations. This goes for all three sizes of the "A" Series heaters, so 24 style variations are possible.

The "B" Series Heaters are made in four styles and in three sizes, making 12 variations; similarly with the "C" Series.

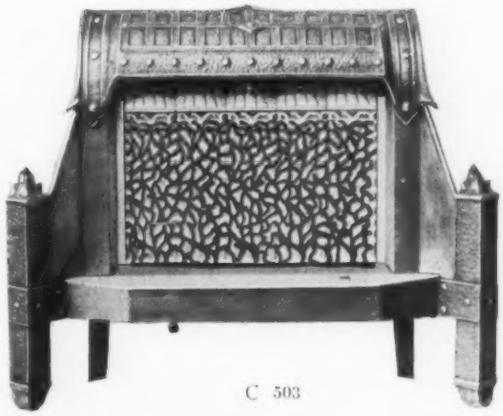
You don't have to tie up your capital in an extensive stock of various styles and sizes. With a small stock you can suit any customer's whim or taste, well within the limits of his pocketbook.

Put a Kennedy Radiant Heater in your window display and a demonstration heater on your floor and watch the results. These two will work together.

The one in the window will attract and interest. The one on the floor will convince.

Make full use of these sales builders and construct a new and permanent business for your appliance department.

B511



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New York City

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Affords you an opportunity to consult a weekly series of Questions and Answers covering every department of a gas plant, and every phase of gas engineering practice. This authoritative book, now OUT OF PRINT, can be secured in the American Gas Journal in weekly installments. They will be continued till the book is finished.

See page 11 for the first installment.

Also with this Issue

we begin

Industrial Gas Lessons

A series of articles in text book style, invaluable for the industrial fuel engineer and industrial gas salesman. These articles are written by an expert, and when completed will furnish a complete book of Industrial Gas Lessons that will cover the use of gas and the principles of combustion that are necessary for every kind of industrial installation.

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C-K CO

Tanks Purifiers

Steel Plate Work

AMBLER, PA.

THE KEMP

Automatic Gas System

The Kemp System increases the uses for gas, applying it efficiently and economically for purposes for which the use of gas has been considered impracticable.

THE GEO. KEMP MFG. CO.
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JNO. DELL, Pres. and Gen. Mgr. Established 1882

MISSOURI FIRE BRICK CO.

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Manufacturers, Designers and Constructors of Gas Benches

With Either Clay or Silica Retorts

Checker Brick and Water Gas Linings

THE WESTMORELAND COAL COMPANY

CHARTERED 1854

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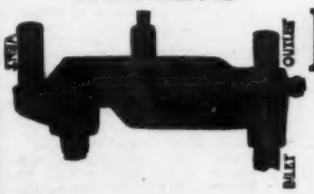

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Michigan Ammonia Works

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ANNEALING MACHINES
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American Gas Furnace Co.

BAFFLES
Quigley Furnace Specialties Co.

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Safety Gas Main Stopper Co.
See also Stoppers.

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Davis & Farnum Mfg. Co.
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Russell Engineering Co.
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Steere Engineering Co.
Western Gas Construction Co.
West Gas Improvement Co.

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Koppers Co., The
Western Gas Construction Co.

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Pressure
American Gas Furnace Co.
Connersville Blower Co., The

BOILER GRAPHITE
Dixon Crucible Co., Joseph

BOILERS
New York Engineering Co.

BOOSTERS
Connersville Blower Co., The
American Gas Furnace Co.

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Surface Combustion Co.
Fuel
American Gas Furnace Co.
Connelly Iron Sponge & Gov. Co.

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Gas Machinery Co.
Koppers Co., The
Steere Engineering Co.
Western Gas Construction Co.

CALORIMETERS
American Meter Co., Inc.
Stupakoff Laboratories

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Jos. Dixon Crucible Co.
Gardner, James, Jr., Co.
Gautier & Co., J. H.
Gerould, C. L.
Improved Equipment Co.
Parker-Russell Min. & Mfg. Co.
Quigley Furnace Specialties Co.

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Stacey Manufacturing Co., The
Gas Machinery Co.
Stacey Bros. Gas Construction Co.

COCKS
Acme Brass Works
Detroit Brass & Malleable Co.

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Westmoreland Coal Co.

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Improved Equipment Co.
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Koppers Co., The
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Stacey Manufacturing Co., The
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Keller, C. M.

COKE OVENS
Koppers Co., The

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United Gas Improvement Co.
Low Pressure
Cox—American Gas Journal
Fox—American Gas Journal
High Pressure
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Freese, Fred W.
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Randolph, W. W.
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Stacey Manufacturing Co., The
Steere Engineering Co.
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Western Gas Construction Co.

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Isbell-Porter Co.
Western Gas Construction Co.

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Steere Engineering Co.
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Gas Machinery Co.
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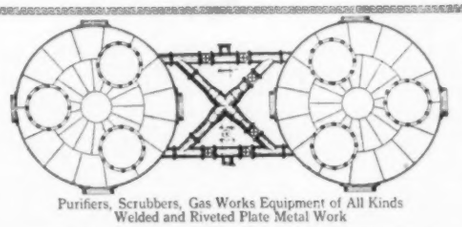

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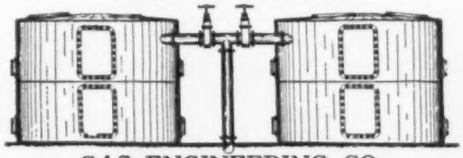

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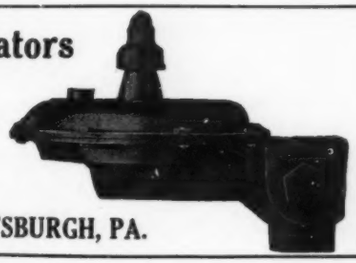

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